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IN REVIEW

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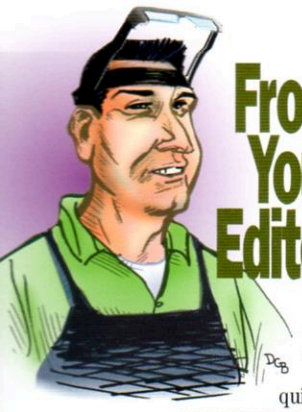
ON THE COVER:

Hey! Whadda ya know? We've finally got a great looking T-34/40. It's a doozy and it's from Dragon. Another beauty right out of the box. Dragon has been really busting out the plastic—with more on the way (see the Short Takes section). That moody looking dude guarding the T-34 is a VP figure with a Hornet head, painted in oils and acrylics. The review starts on page 33.



From Your Editor

We came, we saw, we napped

I thought, perhaps, that some of you would want to know what went on with the recent Ampersand Euro Tour. OK, here's the whole (practically) story. Everything seemed to be going according to plan in the week just before the trip, when what should suddenly pop up on the TV? A hurricane! Now this is a common worry for us south Floridians at this time of year and this particular one looked like it was heading north of us. No worries, right? WRONG! The stupid thing was headed right for Washington D.C. Now, I should digress and tell you that our clever travel agents had actually consolidated us into just a few flights so that we could all arrive at the same time, and the majority of those being consolidated were heading to Washington. Guess what? They closed down all the airports in D.C. the day of our trip! Everyone was successfully rerouted, but I experienced more that a little anxiety until I saw each and every smiling face on the roster standing in the entrance hall at Gatwick.

From that point on, it seemed like luxury travel. We were whisked down to Folkstone quite promptly and into our hotel rooms. There was the usual "musical room" game until everyone was satisfied. Some people can be real picky about working toilets... Also, at least one of the rooms at the Lismore had a shower stall on a raised pedestal that looked exactly like the transporter pad of the Enterprise (it was very clean, too). Cool.

The Euro Militaire event went off without a hitch. Our tickets were waiting for us at the door thanks to the able efforts of Ken Jones and away we went. The long renovated Leas Cliff Hall is just about finished and the improvements are now fully realized. The most important of them of course, is the all new bar area and balcony. This provides awesome views of the English Channel and enjoyment of the late summer weather. I have to say that in all the years I've been to Euro, I can't recall anything less than a sunny weekend for the show.

The other major improvement to the hall is the lower level, which is now beautifully appointed and air conditioned. The lower level is the location of the competition room and the club room, so the new digs made the experience all the more pleasant.

We had to leave the show early on Sunday, which worked out well for almost everyone, as wallets grow slim fast in Folkstone. I say almost everyone, because I was the very last to come huffing and puffing around the corner of the hotel, with all my various bags and cases (this was to become a theme for the remainder of the trip). Hey, I'm trying to make a living here, for cryin' out loud!

Our travel agents were spot on again as we got whisked right back to Gatwick for the trip to Germany. The short flight was uneventful, but I was a little nervous about one individual who traveled directly to Germany without taking in the show. I won't reveal his identity, but for the purposes of this story, I'll just call him "John Keene." John Keene had gone on ahead to visit with some friends and he was to meet us in the entry hall of the Hanover airport. Not only was he there, but he greeted us with a six-pack of beer! (A very nice gesture, that I did not want to degrade by pointing out there were way more than six of us in the group). John had also already hooked up with our tour greeter/coordinator (a gorgeous blond woman) and our bus driver. Within minutes, we were packed onto our "deluxe motor coach" and on the highway. As a consolation for not having the coordinator come with us on the bus, we quickly discovered that our driver was not only a former tank commander in the Bundeswehr, he kept the bus well stocked with ice cold beer, soda and water (which he sold to us for the paltry price of one Euro). His trip to Munster (our first stop) would be his first visit since he was inducted as a Panzerman in the late seventies. He later told us that his favorite tank to drive was the M48, but that he still thought the Leopard 2 was the best tank in the world.

Peter plopped us at the Hotel Deutsche Haus late in the evening. This was a great place with very comfortable rooms and good food. It was unfortunate that our stay was so brief. We all had a bite to eat and went right to bed. We left promptly at nine the next morning (where I was promptly late) and headed to the Panzermuseum. The Panzermuseum has also been recently renovated and now has a beautifully executed entry hall that is decorated with a newly restored O-series Jagdpanzer IV. Much to our surprise, we quickly noticed that the museum was actually closed and had opened just for us! Our guide met us and began a detailed explanation of what a tank was, until we politely explained that we were all total geeks and no such explanation was necessary. He took this well and we eventually had the run of the place. All hell broke loose when I sheepishly asked our guide if I could climb up on a T-34 to take pictures. The balance of the group simultaneously inquired, "if HE gets to, why can't we?" Well, the affirmative answer sent a dozen or so grown men in to a child-like frenzy as they jumped all over the Tiger I, Tiger II, Brummbär and Sturmtiger, to name just a few. More than a few girl-like squeals and giggles were heard. Rumor has it that one of the curators, sensing the delight of the assembled geekhood, let a few of the lads heft an MG 42 around. Whew!

While we were still "basking in the afterglow," so to speak, we headed out to Koblenz. Just before departing, Peter was nice enough to cook hotdogs for lunch right on the bus. This was the longest leg of our journey, so it was pretty much snooze time for all. Koblenz is the location of the WTS, the Germany Army's official ordinance museum. Our guided tour was every bit as exciting as the Panzermuseum, although our guide did not allow us to climb on anything (which doesn't mean we didn't). This is where the picture on this page was taken (check out the Panther in the background).

Then it was off to our final destination, the city of Mannheim and the Parkhotel Maritim. This place was sensational. I was fairly certain that we had the wrong hotel—well into our stay! The hotel is located right on the beautiful city "Parkplatz" and is central to everything is this charming city (check it out at www.maritim.de/english/index.html). This served as our base for the next three days and gave us a chance to relax after our hectic schedule. Our last museum stop was the transportation museum at Sinsheim located just a short distance from Mannheim. It turns out that our private tour guide there was briefly a Jagdpanther gunner and then spent 25 years working as a translator for the U.S. Army! He allowed us special access to all the exhibits and this even included sitting in the driver's seat of more than a few famous vehicles. Their collection includes both armored and soft skin vehicles, but one of the highlights of the collection has to be the fully restored Mercedes G3 staff car. Why there is not a plastic model of this thing remains a complete mystery to me. It has been perfectly restored, bolt by bolt by Mercedes and the museum staff. Wow!

The remainder of the trip was spent bumming around Mannheim and a short tour of Heidelburg and its castle (there are no tanks there but it was still fun).

We all made it back to the airport in one piece and considering all the problems we had on the way in, the way back was trouble free. OK, that's my story. Any questions?

—*Pat Stansell*

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The Mail Sack

International Relations 101

I recently purchased the Concord books, Special Ops Vols. 26 and 27. They were purchased without reading the text, as they were the first books that I've seen with photos of Operation Iraqi Freedom. Much to my surprise, when I started to read the books I found the text loaded with sarcastic and anti-American sentences. The following are just a few such examples. Vol. #27, page 4, caption of a destroyed T-72: "The destruction of the T-72s at Al Mahmudiyah was an easy American victory but an indisputable psychological defeat." Vol. #27, page 11, caption of Bradley IFV: "For no apparent reason, a Bradley opens fire on the open windows of a residence." Vol. 26, page 32, refers to Marines as, "...often coming from the lower classes of American society... Partially motivated by the spirit of revenge."

This type of yellow journalism is appalling and I am so sorry to have given money to this goofball. I know you might roll your eyes at this e-mail, but it really bothers me that a reference for modeling becomes a forum for this kind of crap. My wife and I have adopted a soldier in Iraq, Sargent Chris Ten Eyck. We send him care packages and letters to give him support. By writing to you this is my way of supporting him over there.

—Jay Ruggiero

Oh Jay ,my friend, it's so much worst than that. This guy may be the biggest load on two feet. Here's the deal. This French photographer was not part of the sanctioned press pool. This is a very serious venture fraught with substantial risk. Clearly, such a path should not be trod upon without careful consideration. This is something he apparently did not do. So, he very quickly ran afoul of U.S Army Military Police, whose sole purpose is to keep weenies like this guy from getting his nuts blown off in the combat zone. Did he turn on his Gaelic charm? No, he was rude and got into a scuffle with these dudes, which quickly put him face down on the ground. He did not like this. As a matter of fact, almost wherever he went, once his lack of credentials was known, he was not treated kindly. Why? HE'S NOT SUPPOSED TO BE THERE! The Army was very clear about this prior to the conflict. Members of the press who prowl the countryside without pool credentials would be detained and/or removed. He did manage to infiltrate several units and get photos, but sooner or later that guy got cleared out.

The U.S. and the western world have a long tradition of embracing a free press. That is certainly something to be proud of. And, if one has a legitimate beef with the action in Iraq, then they should speak out in whatever forum they wish. However, if that beef is centered around an obvious reaction to bad behavior and ridiculous rule breaking, then it's a little harder to understand.

The author's editorial comments glaringly reflect this bias and it is all too obviously as a result of his treatment. This is scathingly unfair, as the individuals who impeded his movement were simply doing their jobs. His comments further stated that he supports the common GI and was only looking to "tell their story." Nice try, dude. After these books circulate, this guy may just want to seriously watch his ass around any group of GI's he encounters!

But in the end, this is his story and his opinion. He's got a right to tell it and we've got the right not to like it.

✉

30-year old man collects dolls!

The intent of this letter is to suggest to manufacturers some of my desires and an appeal to produce some of these badly needed items. I think it would be a safe assumption that I'm speaking on behalf of a "model nut."

First, why has no one ever produced a sheet of German loading labels and tire pressure notations for all those soft skin vehicles? Hey, we all want them for those German truck kits and tanks, too. Throw some convoy spacing markings and that will be a great item.

Finally, what the hell happened? I'm a 30-year old man collecting dolls—I'm sorry; I mean "action figures." Come on, I know there isn't a military modeler out there who hasn't bought at least one of these things. Well, to the point. How about some various helmet decals, badges and patches from you cottage industry dudes? Hey, I'll buy.

Thank you for your time, patience, understanding and consideration. And yes, I do have an attractive girlfriend.

—Lance Manion

Getting men into trouble everywhere

I see how things are, sending us unsuspecting married males to web sites with models and getting us into trouble... Your reference to "Blast Models" in the Short Takes of issue 34 is: www.blastmodels.com. Oddly, this takes you to a modeling site as in, "you want to buy this because I'm so sexy model site." Thus, in turn, getting us into trouble with the wife's kind of trouble. Your reference should be www.blast-models.com to take us to the "lets go play with models and get dirty site" (oh, and pick up all the little pieces that fall into the carpet).

—David L.

Oh, crap! We hate when that happens. Thanks for the tip. It kinda reminds us about the old Apple Computer help line. You used to dial 1-800-SOS-APPL (it doesn't work anymore), but if you accidentally substituted a zero for the "O" in SOS you got a live sex chat line. HA! HA! That's so funny—isn't it honey? Honey?

✉

As timely as today's headlines

I rely on MMiR for the strait skinny in your kit reviews, as well as news of new products. A teacher on a budget, the reviews are of particular interest to me because I want to spend my hard earned money on an AFV kit that is not only interesting and decently engineered, but is a finely detailed scale representation of the real deal.

My concern is that your publication's kit reviewers are very lax about "scaling" the kits they examine. Case in point: Issue 15, page 41. M18 vs. M18. I read this article with great interest. Not only were there suddenly two kits of a popular and formerly under represented AFV, but I would get some insight into which of the kits was worth my money.

I had already purchased the Academy kit when your review came out. Obviously, I was interested in whether or not my M18 was the better kit to build from the standpoint of scale accuracy.

Some months later I got a deal on the AFV CLUB M18. Last weekend a buddy was over and asked me which was the better kit. I told him that I didn't know, but I thought that the AFV Club kit was the better kit according to you guys.

Well, we got out both kits, your mag, the June 1987 issue of FineScale Modeler (RESEARCH DATA: The U.S. M-18 Hellcat Tank Destroyer: Plans, photos and specifications...) and began to slice plastic bags.

Here is our unequivocal review of both M18 kits. Long story short! Although the Academy kit is not perfect (the rear deck detail is wrong), it is almost perfectly to scale according to 1/35th-scale plans of the vehicle. The AFV Club kit is not only tiny for the scale, but the gun barrel is profiled like it swallowed a pig and it tapers drastically to the muzzle break. The wheels are poorly rendered and, although the tools are probably in scale, if put in the specified locations, look huge.

This exercise left me a little shaken, but I thought I would pass this information on to you so that you could encourage your reviewers, especially when they review two competing kits, not to just eyeball the kits and compare them to each other, but to actually compare them to plans or official dimensions. Your kit reviews would be less subjective and a better service to your readers, if this were made so.

—Greg V. Hill
gvhill@sbcglobal.net

Well, Mr. Hill we certainly hope to address your concerns by the time we publish issue 16. What's that? I'm sorry? We're on what issue? Thirty-five? Holy crap! Dude! What's up with that? That was five years ago! Cut us some slack, huh? But—let us respond anyway. In some cases, a reviewer will give the basics and leave the rest up to YOU. That's right, sometimes it's fun to figure out stuff by OURSELVES, just as you have so perfectly demonstrated in the above anecdote. The fact remains that many modelers are still just looking for the most enjoyable building experience and this often doesn't include verifying the dimensions of the kit.

And, we'd also like to say that the magazine has made a couple of improvements in the last five years, among them an effort at being more conscious of a model's scale—for those of you who enjoy that part of the experience. Oh, and we're 80 pages now. You should really check it out. Just don't look at page 62 of this issue.

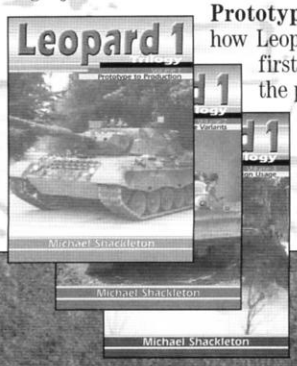
✉

If you would like in on any of the dialog in MMiR, drop us a brief letter written on a fifty dollar bill or better yet, inscribe it on the bottom of an solid milled brass K5 Railgun in 1/16th scale and send it to: ***Mail Sack, Ampersand Publishing Co., Inc. 235 NE 6th Ave., Delray Beach FL 33483*** *or* ***mmirpat@aol.com.*** *Letters are sometimes edited for brevity, obscenity, national security, or just to make you sound smarter.*

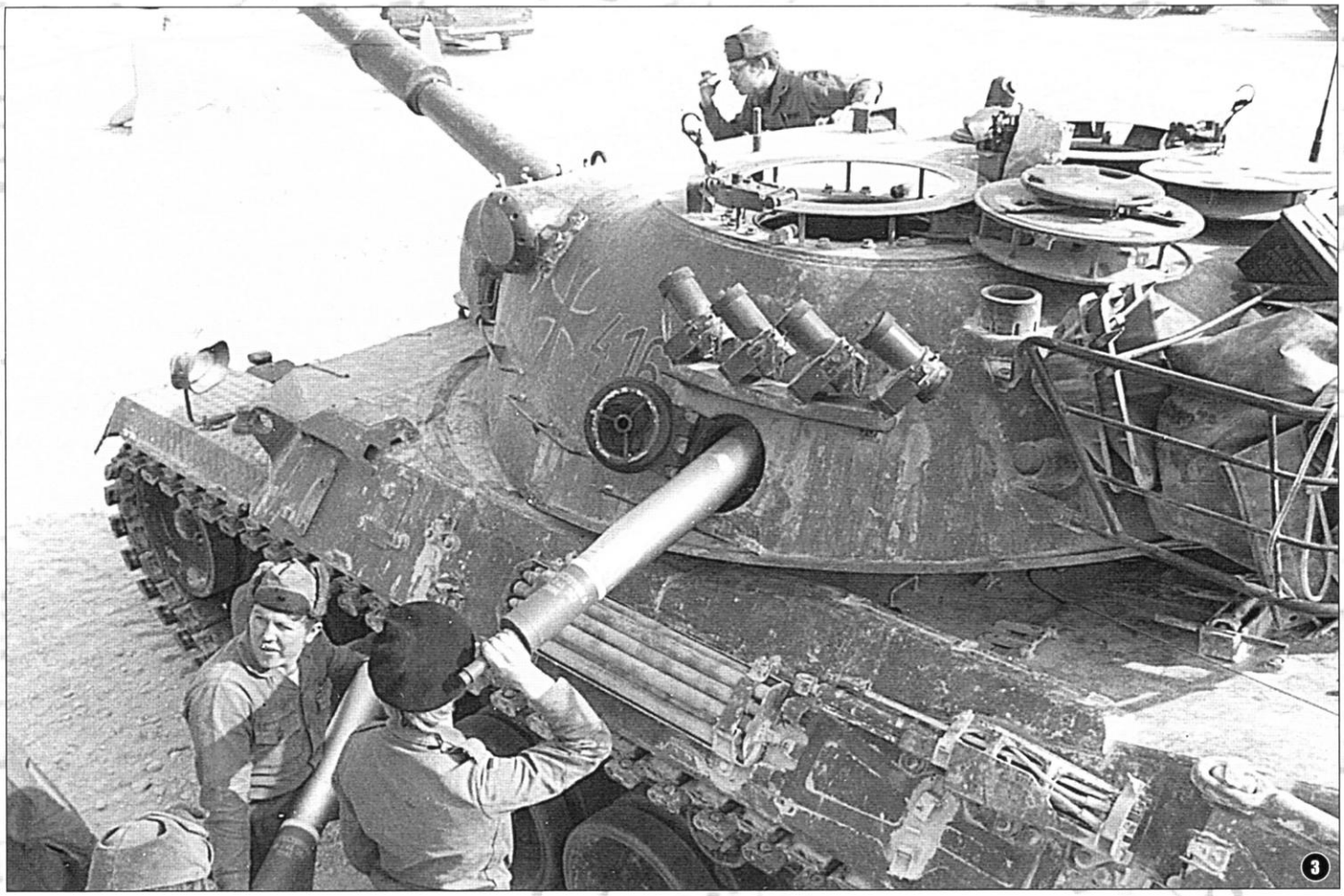
We sincerely regret that we rarely, if ever, are able to personally enter into correspondence with our readers.

Leopard madness!

You know... it's too bad more folks aren't nutty over the German Leopard tank. This thing is just so cool and it has been made into the most fantastic stuff. We have grabbed a few images from a brand new book series by Michael Shackleton that claims to be "the first comprehensive history of one of the most important tank designs of the post war period." We agree! The story is a detailed assessment of Leopard design and development and is broken down into three volumes. **Volume 1- Prototype to Production**, tells the story of how Leopard 1 was developed and became the first home-produced main battle tank for the post war German army (328 color photos, 88 BW photos, 12 pages plans, 47 line drawings, 176 pages). **Volume 2 - Special Purpose Variants**, describes the many different variants built on the Leopard 1 chassis, from recovery and engineer vehicles to bridge layers, and driver trainers to antiaircraft tanks and mine-clearers (594 color photos, 53 BW photos, 27 pages plans, 35 line drawings, 224 pages). **Volume 3 - Foreign Usage**, tells the story of how the Leopard 1 continues in service with the armed forces of many countries throughout the world, such as Australia, Belgium, Brazil, Canada, Chile, Denmark, Greece, Italy, Netherlands, Norway, Romania, Turkey and the United Kingdom (557 color photos, 11 BW photos, 10 pages plans, 5 line drawings, 200 pages).

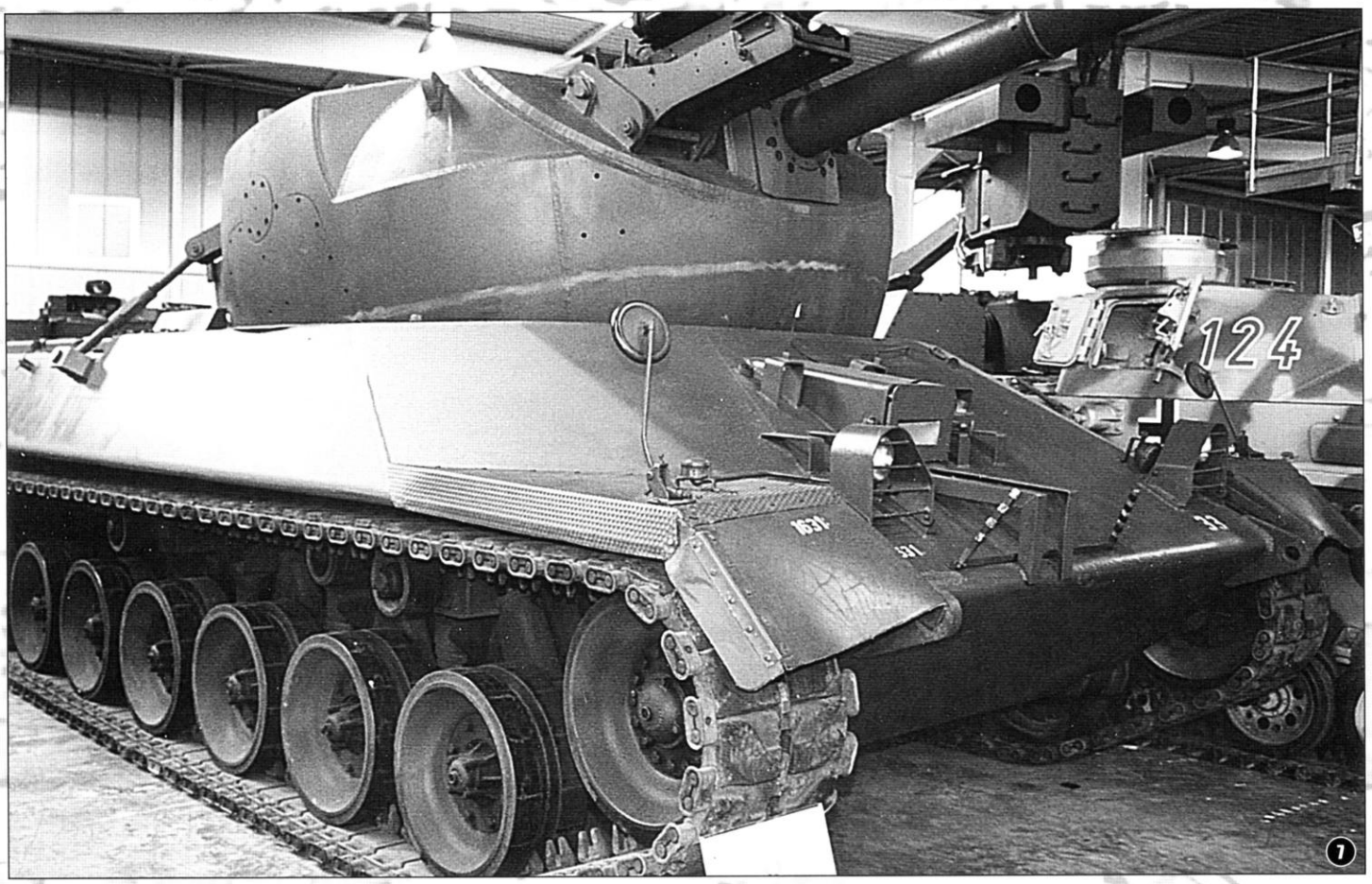


Instead of the crane jib seen on the Pionierpanzer, the Dachs has a large bucket on a telescopic arm for combat engineer work. The vehicle was developed as a cheaper alternative to the two GPM prototypes of the late 1970s. In fact, the telescopic arm was based on the design of the GPM Prototype 1. For straight bulldozing operations, Dachs can clear up to 270 cubic meters per hour. (Clemens Niesner)

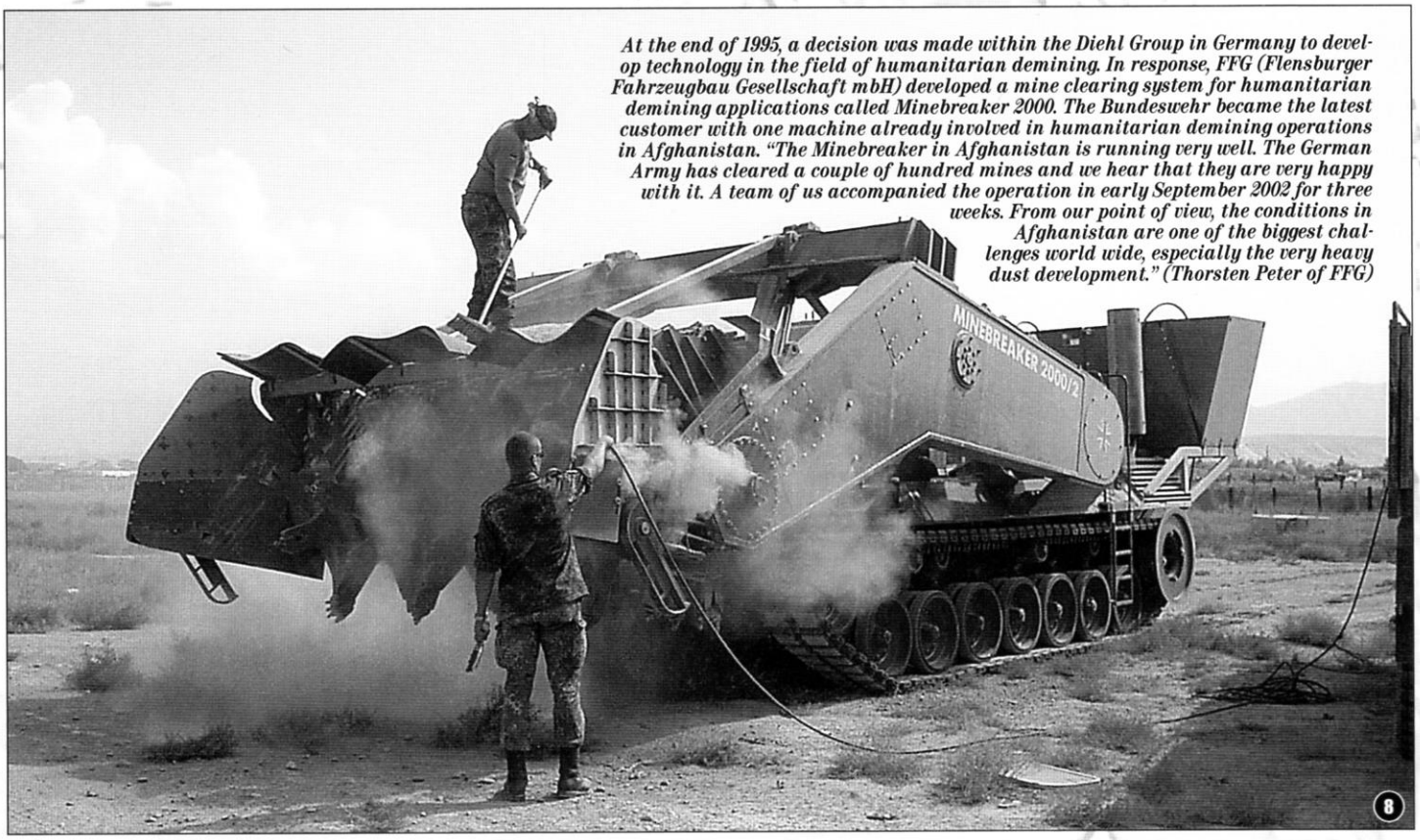


2 & 3. These two photographs were taken at Grafenwohr in 1972 by a US Army intelligence officer, First Lieutenant George Bush (no relation! That's him in front of the turret.). In the background of some of these pictures are the American M60A1s of the 32nd Armoured Regiment. All of these rarely photographed early Leopard 1s in Bundeswehr service are from Batch 3, and they exhibit standard early production features—tread plate, track guards, D139E2 tracks, early searchlight box that only opens at the top, etc. Apart from gun cleaning rods and tow cables, no other tools are fitted to the hull sides. The chains across the engine decks would be used for securing the tanks to rail flat cars. 4. Biber – Two bridge sections have already been laid down in an attempt to bridge a wider river than the Biber's span allows. In this way, bridges can be laid one on another. This Biber is about to lay a third bridge. Note the feet attached to the bottom of the support blade to prevent damage to the bridge. The third bridge is launched horizontally, thereby presenting a relatively low profile. This is the biggest advantage of the Biber system. Most of its contemporaries use a scissor system (with the bridge hinged in the middle and launched through 180 degrees), which presents a large target to the enemy. The wooden blocks will support the end of the bridge to avoid damaging the bridge already laid. (Gerd Schwiers)

5. One Leopard 1A5(BE), which was fitted with additional armor on the turret and hull front, was known unofficially and incorrectly as 1A6(BE). The passive armor package added to the turret and hull front was similar to that fitted to the Canadian Leopard C2A1, although it retained the new-style ceramic side skirts of the 1A5(BE). Called MEXAS, the package was designed in Germany by IBD Deisenroth Engineering. This single machine was still in service at the time of writing. A second vehicle is said to have been prepared for armor, although the armor was never fitted. Leopoldsburg 1997. (Gerd Schwiers) 6. The massed might of Leopard ASIs belonging to 1st Armoured Regiment, gathered together on Victoria Docks, Melbourne, waiting to load aboard the roll-on/roll-off ship that will take them to Darwin. The skyline of Melbourne, capital of Victoria, is in the background, July 1995. (Mike Cecil)



7. Towering over the vehicles alongside it, the Erprobungsträger was a very large vehicle. Photographed in 1998 at the WTS Collection in Koblenz (the vehicle is currently in storage) it was developed as an experiment leading up to the MBT-70 program. Built in 1966, the base of the turret was spherical, which allowed it to move on all three axes independently of the movement or angle of the hull. Weapons and sights were rigidly mounted in the turret so there was no relative movement between the crew and weapons and sights. The three-man crew also was in fixed positions in the turret. The Leopard parentage can be seen in the running gear and the exhaust grills. The complete turret was independent of any hull movements and was stabilized using gyroscopes and hydraulics. (Author's collection)

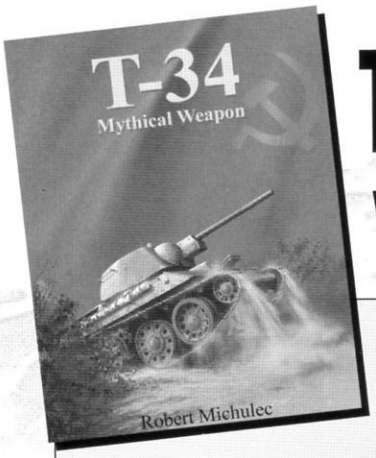


At the end of 1995, a decision was made within the Diehl Group in Germany to develop technology in the field of humanitarian demining. In response, FFG (Flensburger Fahrzeugbau Gesellschaft mbH) developed a mine clearing system for humanitarian demining applications called Minebreaker 2000. The Bundeswehr became the latest customer with one machine already involved in humanitarian demining operations in Afghanistan. "The Minebreaker in Afghanistan is running very well. The German Army has cleared a couple of hundred mines and we hear that they are very happy with it. A team of us accompanied the operation in early September 2002 for three weeks. From our point of view, the conditions in Afghanistan are one of the biggest challenges world wide, especially the very heavy dust development." (Thorsten Peter of FFG)

9

9. An interesting comparison between two different methods of bridge laying. The British Chieftain AVLB in the background uses a scissors bridge (a No. 10 Tank Bridge), which presents a very visible potential target. The Leguan, like its predecessor the Biber, lays its bridge horizontally with a much lower profile. The photograph was taken in a competition between the Norwegian contingent and the British Army's 31 Engineer Squadron, Royal Engineers. (Richard Stickland) 10. Humanitarian minesweeping was a common duty in Bosnia and the Danish Leopard 1A5DKs were well equipped to carry it out. UNPROFOR (United Nations Protection Force) was established in Bosnia in 1992 and the rules of engagement stated that fire could only be returned if the UN forces or their vehicles were fired at. Danish Leopards of the Jutland Dragoon Regiment made a sizeable psychological impact with the arrival of their ten Leopard 1A5DKs in Tuzla in March 1994. (Staff-Sergeant S.B. Andersen, via Frank Lobitz)

10



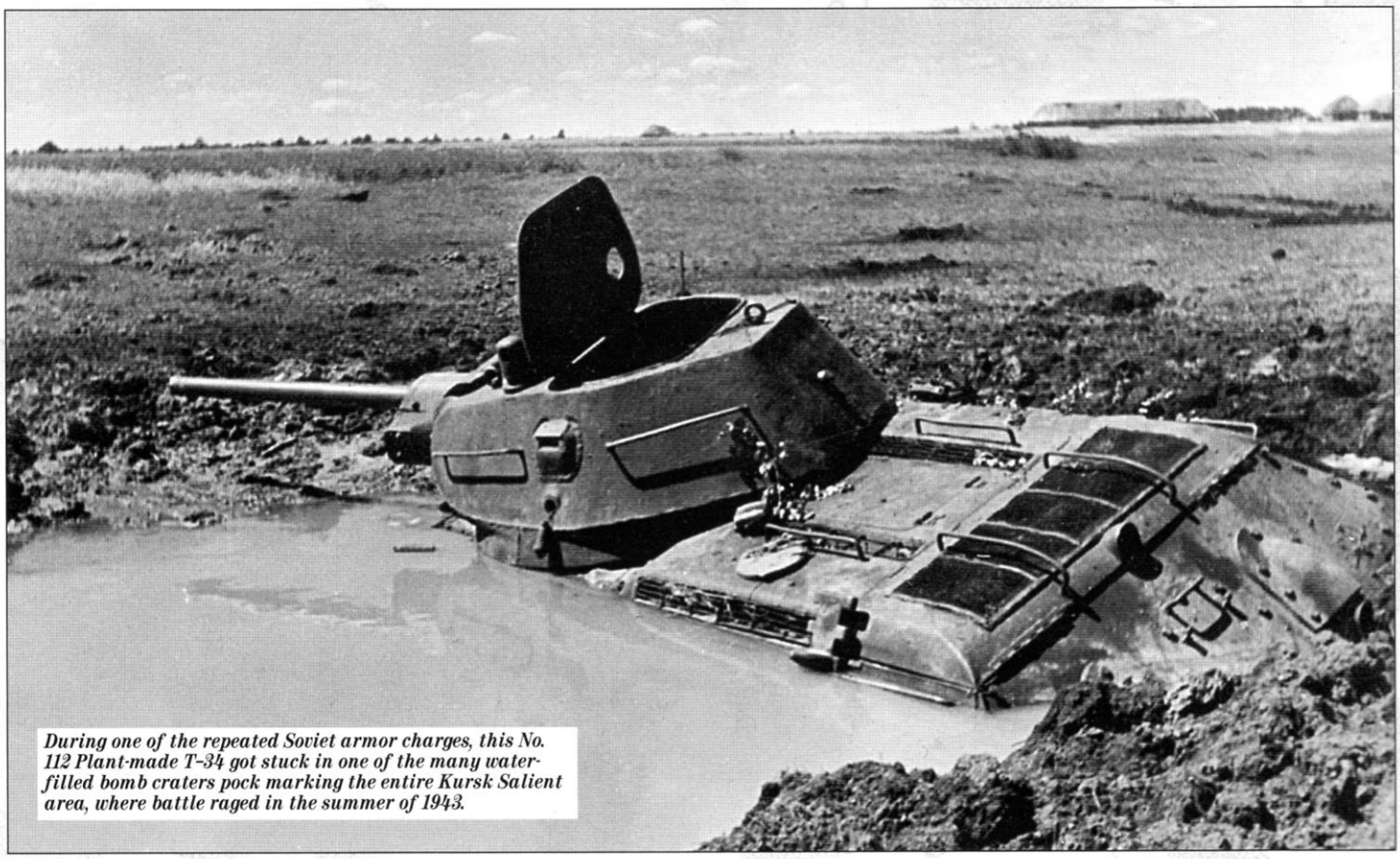
The trouble with the T-34

Good reference on the T-34 is always in short supply. AirConnection & Armagedon have just published a large format, hard cover book that is stuffed with new and interesting photos of this ubiquitous Russian tank. The title is T-34 Mythical Weapon and its 250 pages contain over 500 black and white photos of the T-34, along with 15 pages of color illustrations and 1/35th scale drawings. This all-English text publication is available now through AirConnection. Here is a sneek peek.

1. T-34/76 of the Polish Army with a KMT mine roller during maneuvers in 1950's. Note the unditching beam and the T-34/85 features of the hull. 2. A Polish made T-34/85 during the test at a proving ground. This photo provides a good view of the turret casting.

3. This early T-34 with cast turret is seen knocked out on the street of a Ukrainian town in the summer of 1941. Note that the bare left idler wheel still shows evidence of a rubber tire, soon to be abandoned for rubber economy. 4. Two Luftwaffe personnel pose on a knocked out early welded turret T-34 in the summer of 1941. This photo provides a good view of the many unique details of these early tanks, such as the twin headlights, riveted bow armor and the cast and welded gun mantlet. Due to the high failure rate of the early transmission design, many of the new tanks were sent forward with an additional transmission lashed to the rear deck.

One of the best-known propaganda photos of the appliqué armored T-34s, shot in the fall of 1942 during training on the Leningrad Front. These plates are traced differently, and were cut and welded on by the repair workshop, not the manufacturer. This is an important photo, showing that at least some of the tanks had appliqué armor applied to the lower glacis, as well. Note the tree trunk bundles carried by the tank in the background. These were used to aid in extricating mired tanks.



During one of the repeated Soviet armor charges, this No. 112 Plant-made T-34 got stuck in one of the many water-filled bomb craters pock marking the entire Kursk Salient area, where battle raged in the summer of 1943.

A T-34 unit practicing an attack somewhere in the steppes between Orel and Kursk in preparation for the battles of July 1943. These tanks belong to the tank brigade commanded by Maj. V.V. Yablokov, one of the seven attached to Marshal Rokossovski's Central Front (as the Russians called their Army Groups).

7th Guards Tank Corps T-34-85 passes by the American M16 half-tracked, self-propelled, anti-aircraft machine gun vehicle of the 287th Anti-Aircraft Artillery Regiment somewhere in southern Poland, mid-February 1945. The tank has a typical No. 183 Plant turret, with a tactical sign of the 16th Guards Tank Brigade, a rhomboid with a 16 over the divider and pennant number "32" underneath.

Russian Dressing

BUILDING THE LONG AWAITED DRAGON T-34 MODEL 1940

You know all about the T-34, right? I mean, you don't really expect me to tell you, do you? Well, suffice to say that it was the Russian's main battle tank throughout WW2 and that it was fielded in several different versions. The version that concerns us on this fine day is the T-34 Model 1940. This was the granddaddy of all T-34s. Built and developed before the war, it was a very different machine than its younger brothers. Many of the later changes to the T-34 were made amidst an atmosphere of wartime haste. Shortages reined and these later machines were urgently needed to stem the growing German tide. As the Model 1940 was built prior to the war's outbreak, much more time was spent on its construction. It has been said that these tanks were very high quality items. Here's a little known fact about early Russian tanks: every other one was actually made of wood! [OK, that's not true]

Speaking only for myself, I have been waiting for a really nice T-34 Model 1940 for some time. My original inspiration was the cover of an old Model Art special on the T-34. Some enterprising Japanese modeler had taken the time to completely rehab the older Tamiya T-34/76. He did a bang up job and I was tempted to attempt this myself, but I never seemed to have the time (sound familiar?). MB Models had a fairly competent conversion available many years ago. It included the upper hull, turret and a set of the older, non-workable Modelkasten tracks. This was only available for a short time and, of course, I never picked one up.

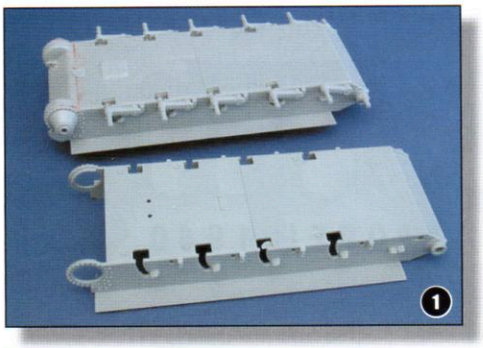
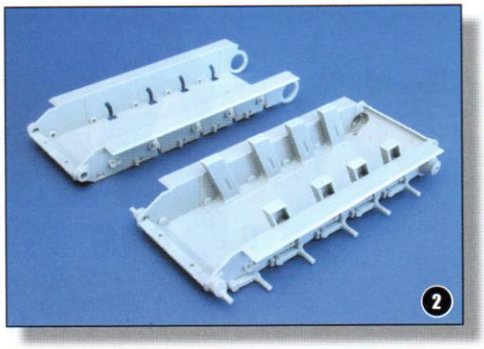
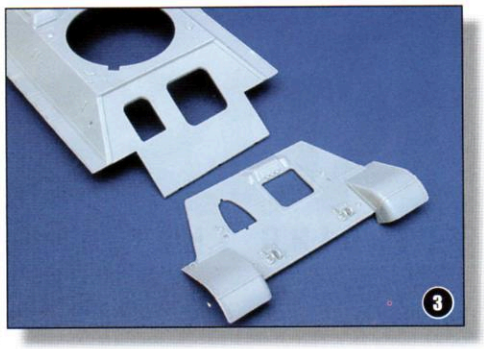
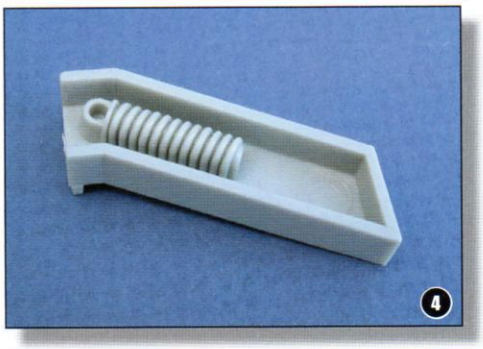
Fast forward to just a few years ago. DML releases a brand new kit of the T-34. This was a T-34/85, but it's quite clear from the way the kit is designed that it is to be utilized as the basis for several models. And then... silence. We got a few assault guns and a Model 85 sub-variant here and there, but none of the early stuff. One or two even popped up in the Dragon catalog. But then, just as I was about to give up hope, the Model 1940 was finally re announced amidst much fanfare (is this guy serious, or what?)

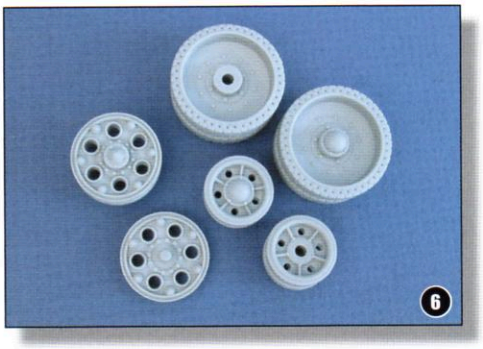
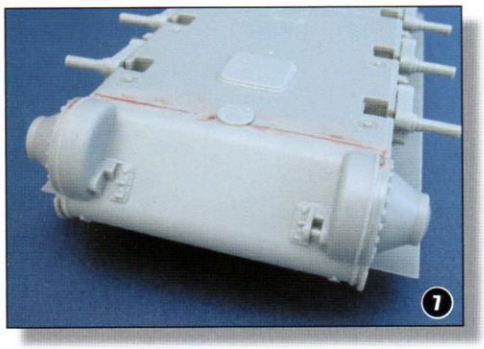
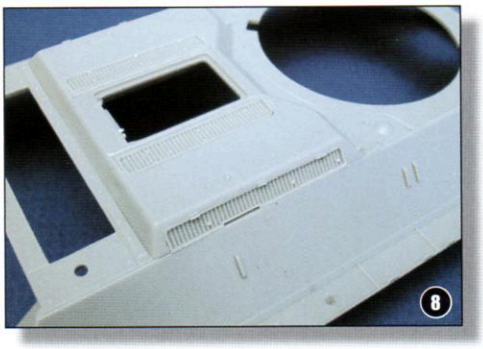
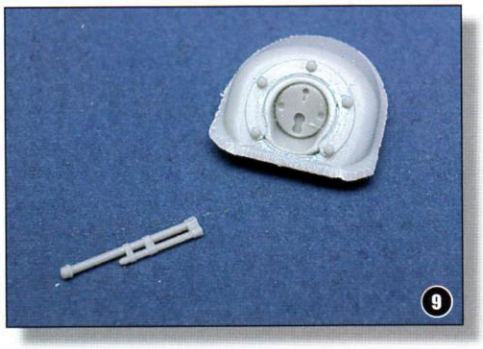
Given the fact that Dragon has been going at the armor market with a vengeance recently, I received this news with more than a little excitement. So, with all that crap behind us now, let's take a look at the kit.

Da kit

The first thing noticeable in the kit is that it utilizes the exact same lower hull included in the T-34/85 kit. I have shown the upper and lower hull in **photos 1 & 2**. In photo 1, the partially built Model 1940 hull is in the rear, while photo 2 has it in the front. The upper hull is similar to the 85 hull, but it does have various new attachment points added. There is a separate plate for the front hull and this includes the distinctive, rounded fenders common to this model (**photo 3**). I was a teeny bit nervous about the fit here, but it was perfect.

It's also the same method for creating the Christy-type suspension in the hull. DML provides the interior housings for the springs and these simply fit down into the hull. I always liked this, because it very accurately represents the real vehicle. The springs themselves are molded inside the housings, again like the previous kits (**photo 4**). Adventurous modelers have already discovered that carving these out can make the suspension workable. If you're really enthusiastic, you could even install real springs in there. Regardless, the result is highly realistic (**photo 5**).

The various road wheels are spot-on. The kit parts represent the early, rubber tire wheels with the rubber rimmed idler wheels. The drive sprocket is also of a very early type. In this area, I thought that everything was especially well done, with some very fine detail throughout all the parts. I have laid all the components out in **photo 6**.

The lower rear hull is another area that was special on the Model 1940. It contains some very rounded contours and is the mounting point for the early-style tow hooks. This can be seen in **photo 7**, along with another neat and barely noticeable detail, the new access hatches for the bottom hull.

As I said, the upper hull is much the same. There are two new cooling grates for the sides and the top near the rectangular access hatch. These contain short, vertical slats, rather than the later, longer horizontal ones. Dragon provides two reinforcement blocks for these (E3 & E4), but I found them not to be necessary. One set has been installed in **photo 8**.

Back up front, there are more goodies in store. The early hull MG mount is a separate subassembly. Its unique flat mount installs from the back and a gorgeous little barrel gets installed on the end. Be careful of this little thing, it's really nice, bit it's also really delicate. The parts can be seen in **photo 9**. Also installed on the front plate are more of the complex early tow hooks. These utilized a pin and also acted as a footrest for mounting the tank (heh, heh—he said "mounting"). A close-up of the hook and the pins is seen in **photo 10**.

Da running gear

The Model 1940 used two piece track links like all the other members of the family, but they had there own special look. The tracks in the kit have been well rendered and are very detailed. Yes, they do have some shallow knockout marks and although I did spend several minutes on the floor in the fetal position, I quickly got over it. The two types can be seen, front and back in **photo 11**. The various links fit together perfectly and I started by making one long strip of links for the top run. I made sure this was long enough to reach around both the drive sprocket and the idler wheel. I used Tamiya Ultra Thin liquid cement for construction. I aligned several links at once using a ruler as a straight edge. Then I added a small amount of the glue to the area next to the guide horn. Capillary action pulls the adhesive through the link. While the glue was still drying, I placed the runs on the top of the roadwheels and fitted them around the idler and drive sprocket. The length of links remains a bit springy, so tufts of paper towel were used to hold it down to the wheels and Tamiya tape was used to wrap it around the front and back (**photo 12**). Even after the glue dries, some bending and adjusting is still possible. I should issue this warning: the front idler is designed to remain workable and the shaft is mounted concentrically to the base. This means that turning it will reduce or increase the track's length. It's only by a small amount, but trust me, it's enough. I didn't do this and I was forced to carve them off and start over with a set of spares.

I waited until the top run had completely cured before moving on to the bottom run. This was also temporarily adhered with Tamiya tape while the glue dried. The paper towel also made a return here to keep the top run in place (**photo 13**). Once all the links were dry, the tracks were carefully removed (I ended up with four sections) to be painted separately.

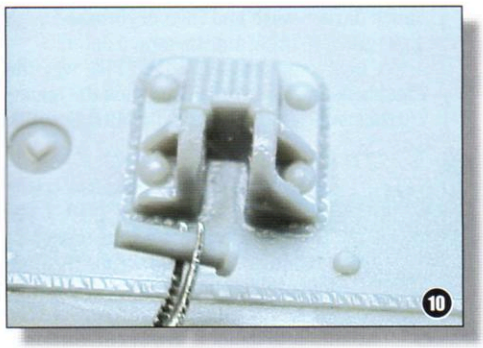
Da turret

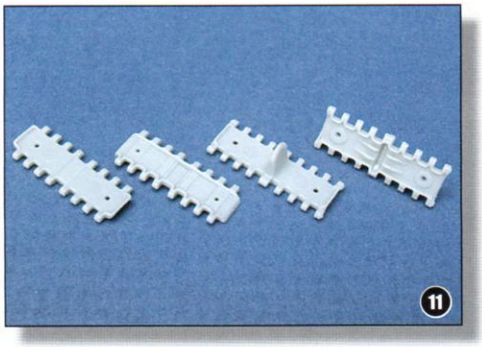
The turret is a rather clever little subassembly that is largely based around the gun and mantlet. A rudimentary breech assembly is provided (**photo 14**). After all, this is virtually an open-topped vehicle with that huge hatch. There were no fit problems on my gun, but do watch out for the co-axial MG. It is quite delicate. This is mounted on the trunnion (part C7) and this, in turn, is mounted to the turret's front plate (**photo 15**).

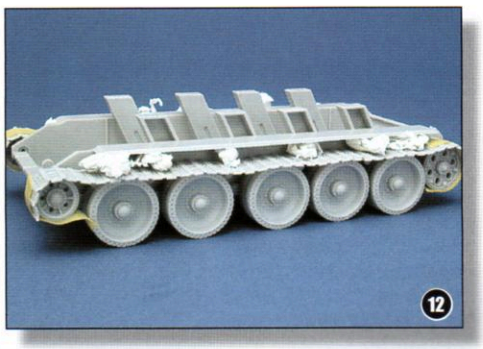
Another area to beware of is the gun mantlet. This is composed of four parts and the fit is so precise that they all must be removed with great care from their sprues. The gun barrel does have its distinctive flair at the muzzle end.

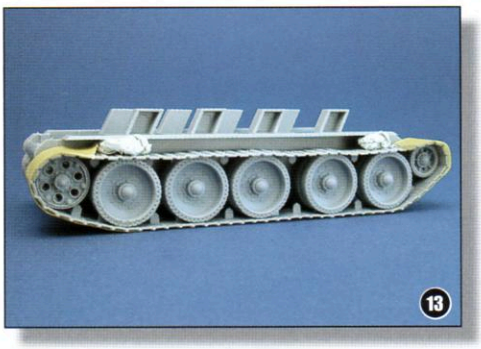
The remainder of the turret is just three large parts. There is a slight fit issue towards the front of the turret where the race area meets the curved forward edge. There is a prominent gap that will need to be filled. It's not too major, but filling it means marring some of the great looking weld bead detail on the turret sides. The gap can be seen on the nearly completed turret shown in **photo 16**.

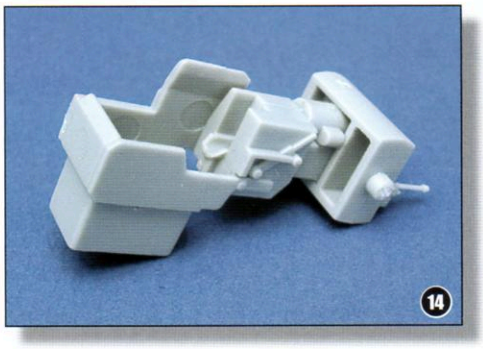
Because the turret hatch is so big, it does require a fair amount of detail. DML has done a good job here and a hatch stop and another doo-

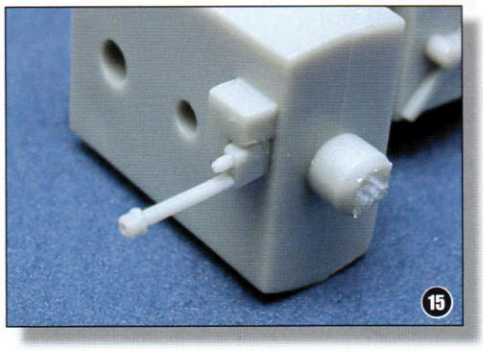


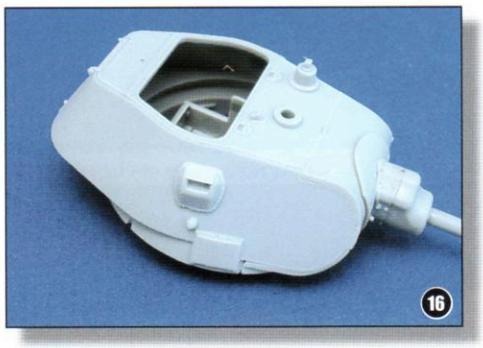


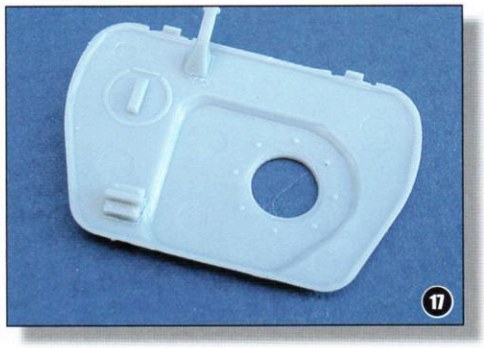


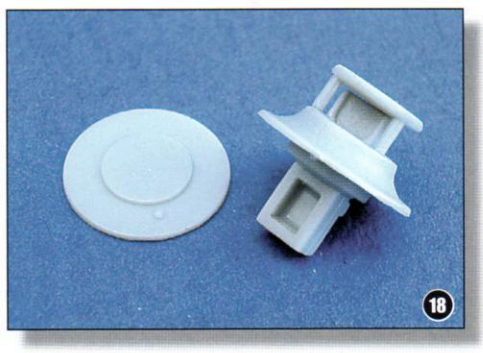










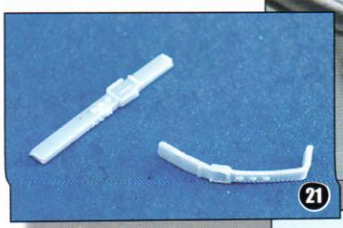


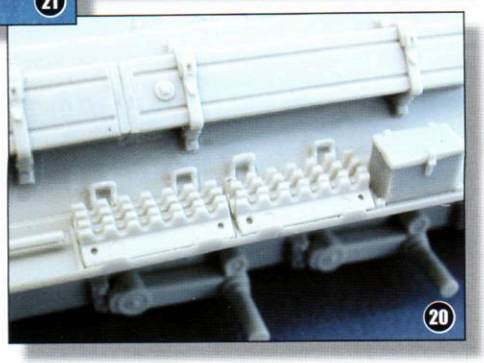
hickey are added to the already engraved detail (**photo 17**). There is also a nice commander's periscope and an option is provided for this to be plugged with an alternate round plate (G8) (**photo 18**). I'm not sure what denotes this option, but it's nice to know that it's available if I should ever figure it out!

And the rest of da hull

The balance of construction revolves around adding various gear to the hull. Dragon has supplied a real load of very accurate looking equipment to add to the outside of the tank. The prominent hull stowage boxes are present, as are their very delicately molded straps (**photo 19**). There is lots of other stuff, too. Various smaller stowage boxes, a shovel, two jacks and a set of tow cables are in the box.

There is also an extensive collection of track grousers to install on either side of the hull fenders. These get stacked up in some of the fender recesses. Interestingly, these gaps remained on the fenders right through the end of the T-34's production. Another nifty add-on is the many u-shaped hooks on the side of the hull. Both the hooks and the grousers can be seen in **photo 20**. The grousers are designed to be held on with styrene straps. These are present as part E1. They must be carefully bent to conform to the grousers (**photo 21**). Some of them are quite brittle and many of mine broke during assembly. In the end, I only had enough to do the section seen in photo 20.





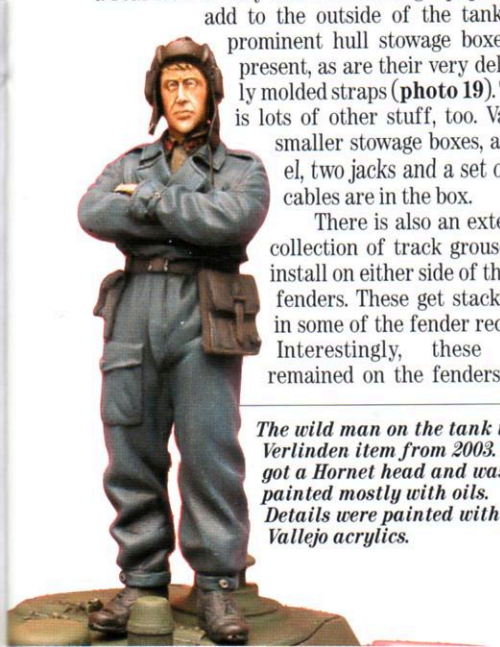
In order to satiate my unnatural desire to detail everything I get my hands on, I used several of the left over u-hooks to replace the molded on ones on the fenders. These are to secure the tow cables and I also made straps for the tow cable heads and added a small buckle casting to them. Dragon supplies nylon string for the cables, but I opted to replace mine with pre-weathered cable.

One last detail that caught my attention was the headlight glass. These are molded in clear plastic and have the ribbed reinforcing detail.

Da paint

There are markings provided in the kit and two suggested color schemes. One is basic Russian green and the other is a very elaborate three-tone scheme from the 1st Moscow Motorized Rifle Division. Nothing in the way of photo reference that I could find showed anything but plain 'ol green—and unmarked at that.

I opted for the plain green scheme, using a mixture of Tamiya XF-58, Olive Green and XF-51, Khaki Drab. I wanted to create a nearly pristine vehicle, with very little weathering and no battle damage.



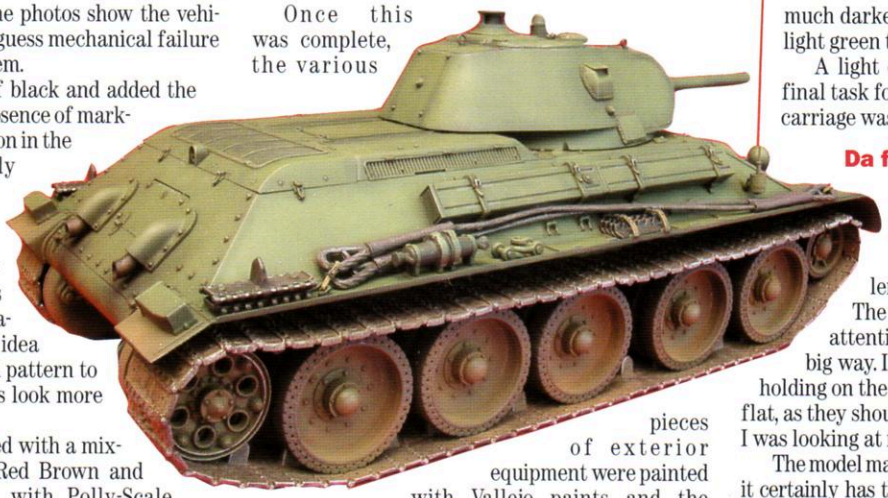
The wild man on the tank is a Verlinden item from 2003. He's got a Hornet head and was painted mostly with oils. Details were painted with Vallejo acrylics.

Oddly, most of the wartime photos show the vehicles to be in great shape. I guess mechanical failure was not uncommon for them.

I started over a coat of black and added the base mixture. Due to the absence of markings, I wanted some variation in the scheme. So, I gradually added small amounts of XF-60, Dark Yellow to create highlights. This was applied most intensively on rounded areas such as the turret ventilators and the rear deck. The idea is to create kind of a cloud pattern to make the large, flat panels look more interesting.

The tracks were painted with a mixture of Flat Aluminum, Red Brown and Black, then drybrushed with Polly-Scale Pewter. Powdered pigment thinned with water was added for weathering.

As a final step, a light overspray of Tamiya Buff, XF-57 was applied to the running gear, tracks and undercarriage.



Once this was complete, the various pieces of exterior equipment were painted with Vallejo paints and the insides of the headlights were painted with Vallejo Silver Plate. An oil wash followed and then subsequent drybrushing with various shades of Vallejo green. One area that received some special attention was the large rear engine grate. I gave this a much darker wash and then drybrushed with light green to bring out the screen detail.

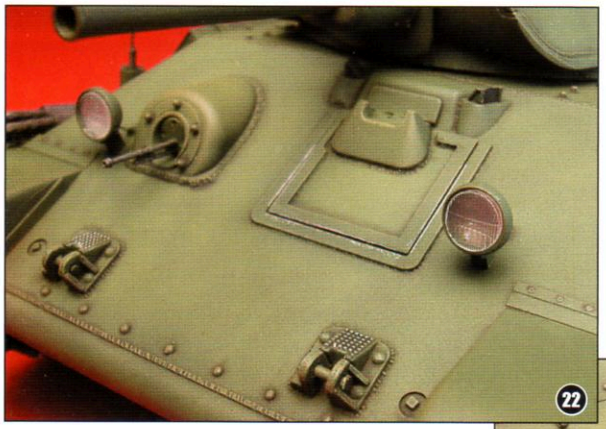
A light overspray of Vallejo Flat was the final task for my airbrush and then the undercarriage was lightly dusted with MIG pigments.

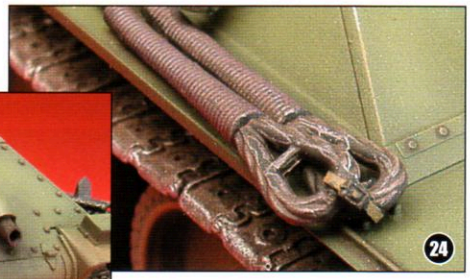
Da finale

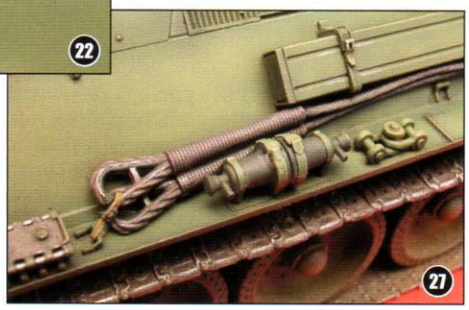
OK, there you have it, a spiffy looking T-34 Model 1940. I am quite pleased with the model. In spite of some very minor fit problems, the kit built quickly and easily. The level of detail is quite high and the attention to detail is always present in a big way. I was surprised to see that the bolts holding on the rear plate are conical, rather than flat, as they should be. I didn't even notice this until I was looking at my own photos!

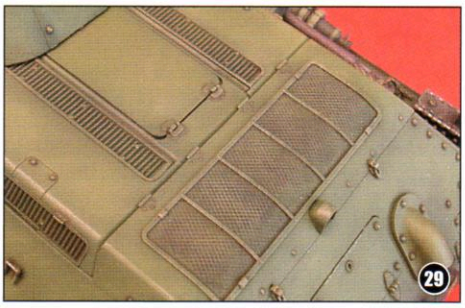
The model matches up well to published plans and it certainly has the look and feel of this unique and distinctive T-34 variant. Bring on the Model 1941!

—Pat Stansell









22. The front end is packed with detail. Check out the weld beads, the steps and the cool headlight glass. 23. I used powered pigment for the exhaust stains. That big diesel was a barker. 24. The two cable heads were detailed with lead foil straps and buckle castings. 25, 26. The turret is particularly well rendered in the kit. I created metal effect on the model with Berol colored pencils. 27. The jacks, tow cable heads and shackles on the left side rear fender. 28. The spare track links on the left rear. I picked out the track pins with silver colored pencil. 29. The back deck screen was given a dark wash and a light drybrushing to bring out the screen pattern.

MMiR RECCE

Dragon T-34/76 Mod. 1940. Kit number 6092. Kit graciously provided by the manufacturer. Suggested retail price $30.95.

References

Soviet Tanks in Combat 1941-1945 by Steven J. Zaloga, Jim Kinnear, Andrey Aksenove and Aleksandr Koshchavtsev, Concord Publications, 1997. ISBN 962-361-615-5. Contains a fair amount of good shots of the early models. A good read, too.

T-34/76 Medium Tank 1941-1945 by Steve Zaloga and Peter Sarson, Osprey New Vanguard 9, 1994. ISBN 1 85532 382 6. Concentrating strictly on the early models, this has a different selection of photos, as well as color plates.

T-34 in Action by Steven Zaloga and James Grandsen, Squadron/Signal Publications No. 20, 1981. ISBN 0-89747-112-1. You've heard of this author, right? He's done a couple of books... This is the original tome, with good clear photos, large in size. Excellent scale plans and robust text.

The Russian Heavy Duty Roadblock on Tracks

Building the IDK T-35A Russian Heavy Tank

Old concept, cool tank

There was a short review of this kit in a previous issue of MMiR when the kit was first released. I thought it would be worth while going back and taking a closer look at the kit and include many of the aftermarket items that had become available in the last couple of years. This is actually the first of a two-part review of the T-35. In this article I will be covering the basic kit and its aftermarket options. In the next article, I will cover an ADV conversion turning the T-35A into a T-35A with conical turrets.

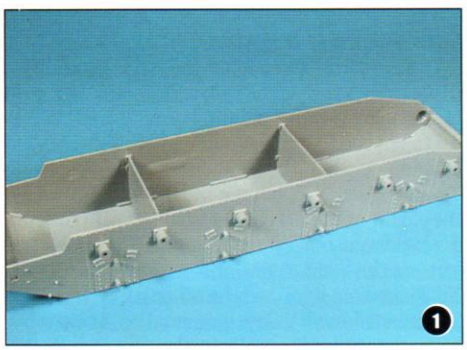
After World War I, most of the major powers looked into the super heavy tank with multiple turrets. This was commonly called a "breakthrough tank." At the time, they were all still thinking of the big wide trenches they would have to cross and having as much firepower as possible while doing it. The British developed the Independent (which Accurate Armour had on their books to do someday). The Japanese had their Type 95 Heavy Tank, the French their FCM 2C, the Germans their Neubaufahrzeug and, of course, the Soviets had their T-35.

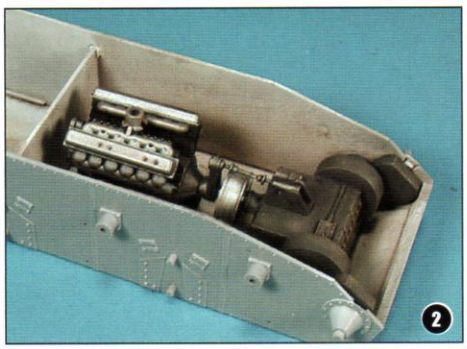
The Soviets started their heavy tank program back in December 1930 when the Directorate for Mechanization and Motorisation (UMM) issued a requirement for a heavy breakthrough tank. The first tank in this program was given the designation of T-30. Although plans, and even a wooden mock-up, were created, it was cancelled in 1932 due to lack of production capability in the fledgling Soviet heavy industry.

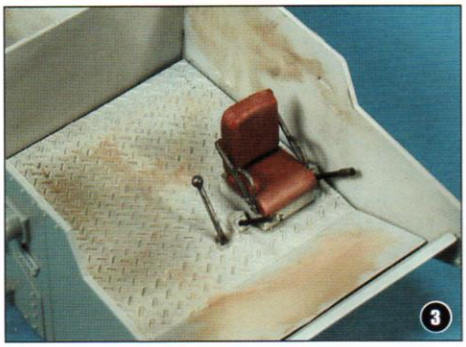
Even in the USSR it was recognized that they did not have the knowledge to produce such a large tank. Their industrial base was just not up to such an undertaking. It was decided to bring in their friends the Germans to help. This was back in the days when the Germans and Soviets still found it beneficial to cooperate. The first outcome of this assistance was a heavy tank that was way ahead of anything else at the time. It was named the TG after its principle designer, Edward Grotte, a German engineer. Unfortunately, although a very advanced and radical design, it was determined the cost of producing this tank would be prohibitive so the project was cancelled in October 1931.

Grotte and his German team returned to the fatherland in 1932, but he did leave a core team headed by N.V. Baryakov who was given his own design bureau. Baryakov's initial orders were to develop a TG-like break-through tank with a deadline of 1 August 1932. It was, of course, to be cheaper—something within the current Soviet industry capability. It was to be designated the T-35.

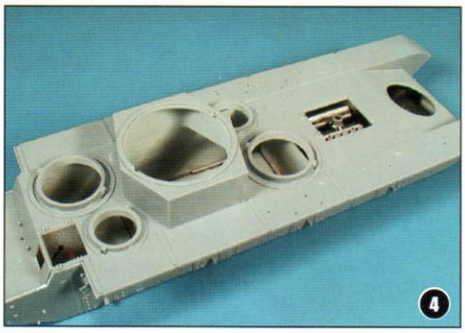
The initial prototype was called the T-35-1 and it was ready for testing on 20 August 1932. The prototype was strangely similar to the British Independent tank developed by Vickers in 1929. The Soviet engineers claim the similarity was only coincidental and that although they had spent some time looking at the Independent they claimed they really had not cheated. Really. A second prototype, called the T-35-2, was completed in April 1933. This second prototype was closer to something the Soviets could build, so it was ordered into production with major changes as the T-35A. It was to be produced at the Kharkov Komintern Locomotive Plant or KhPz. In fact, the T-35A that eventually was turned out was a completely new design and only slightly similar to its earlier cousins. Some of the major changes included a longer hull to accommodate an extra set of bogies, two new machine gun turrets, and the two other lower turrets were modified to accept the 45mm tank gun. Actually, construction was carried out at several plants and

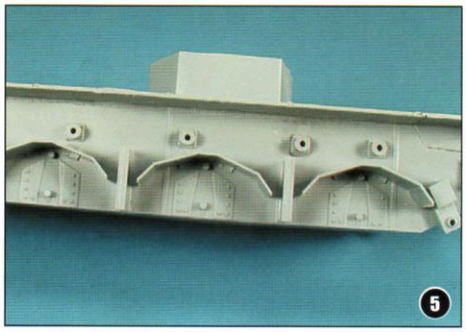


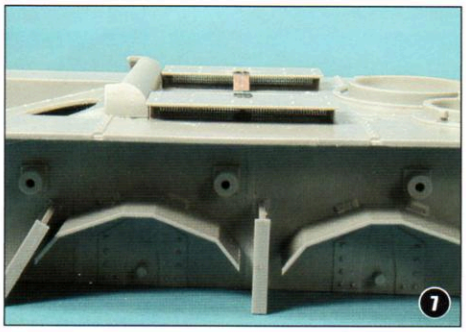


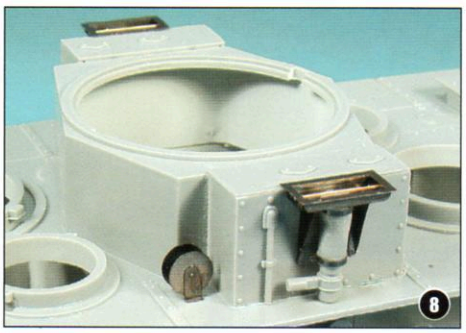


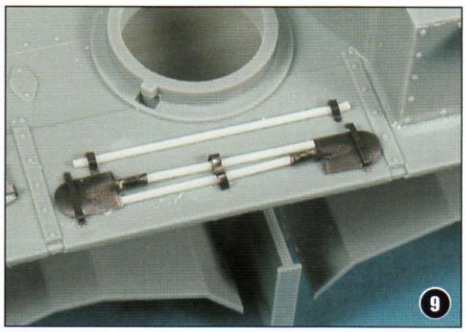
1. The hull is made up of three main parts, plus two internal firewalls. The whole thing is very strong and sturdy after assembling. 2. The engine and power train were painted in separate components, then assembled and glued in. 3. The driver's compartment is rather sparse, but it looks good when the turrets are on. The seat was painted with a Vallejo mix of red and brown leather. The whole interior was given a wash, then dry brushed.

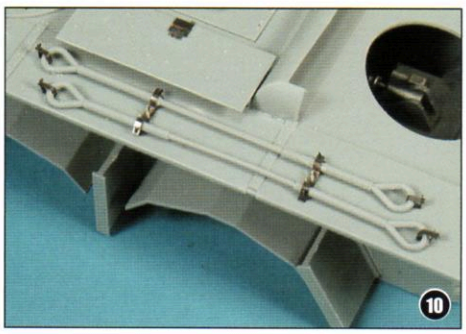


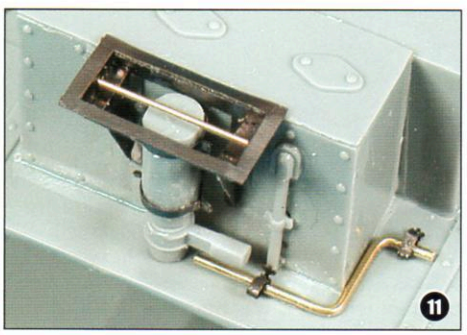


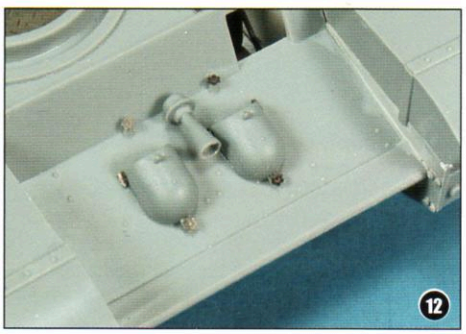


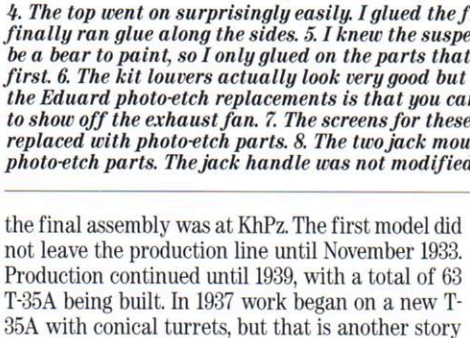


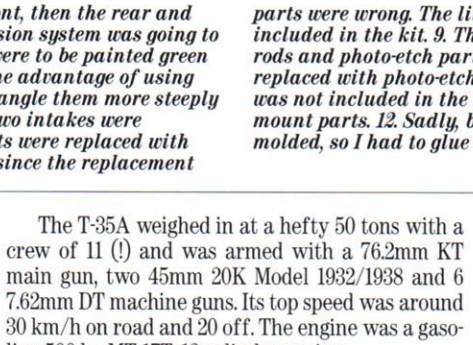


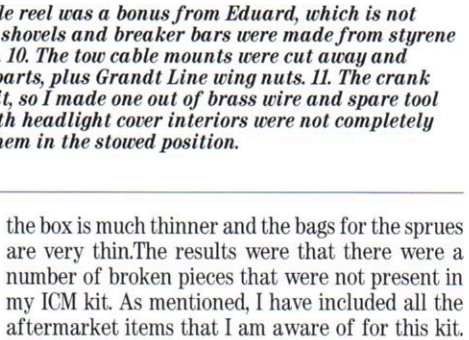












4. The top went on surprisingly easily. I glued the front, then the rear and finally ran glue along the sides. 5. I knew the suspension system was going to be a bear to paint, so I only glued on the parts that were to be painted green first. 6. The kit louvers actually look very good but the advantage of using the Eduard photo-etch replacements is that you can angle them more steeply to show off the exhaust fan. 7. The screens for these two intakes were replaced with photo-etch parts. 8. The two jack mounts were replaced with photo-etch parts. The jack handle was not modified, since the replacement parts were wrong. The little reel was a bonus from Eduard, which is not included in the kit. 9. The shovels and breaker bars were made from styrene rods and photo-etch parts. 10. The tow cable mounts were cut away and replaced with photo-etch parts, plus Grandt Line wing nuts. 11. The crank was not included in the kit, so I made one out of brass wire and spare tool mount parts. 12. Sadly, both headlight cover interiors were not completely molded, so I had to glue them in the stowed position.

the final assembly was at KhPz. The first model did not leave the production line until November 1933. Production continued until 1939, with a total of 63 T-35A being built. In 1937 work began on a new T-35A with conical turrets, but that is another story (or article, actually).

The T-35's were first assigned to the 5th Heavy Tank Regiment (later upgraded to a Brigade) in 1935. All the way up to and including the early part of the Soviet involvement in the Second World War, the T-35's were around. They never worked very well and up until the time they were retired, their only real postive attribute was that they looked good in parades. Although reported to have been involved in the Soviet-Finnish War of 1939-1940, they never actually saw any combat there. They had originally been scheduled for retirement long before the Great Patriotic War began in 1941, but were still around for the initial fighting. Just before the war began, nearly all of the T-35's were transferred to the 67th and 68th Tank Regiments of the 34th Tank Division in the Kiev area. A detailed list of the fate of all the T-35s assigned to the 67th has survived and upon reading the list it is apparent the vast majority of the T-35's were lost to mechanical problems rather than to enemy fire.

The T-35A weighed in at a hefty 50 tons with a crew of 11 (!) and was armed with a 76.2mm KT main gun, two 45mm 20K Model 1932/1938 and 6 7.62mm DT machine guns. Its top speed was around 30 km/h on road and 20 off. The engine was a gasoline 500 hp MT-17T, 12 cylinder engine.

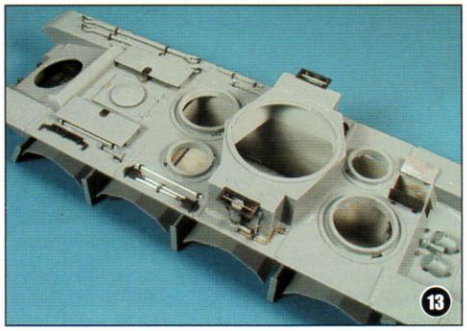
Will the real T-35 kit please stand up?

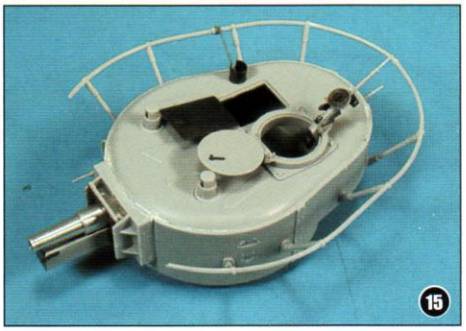
I purchased the IDK kit after reading that it was a cleaned up and improved version of the ICM T-35 model. Well, it isn't. It is actually just a cheap copy of the ICM kit. I have both kits to compare and after going through all the sprues, I could find absolutely no difference, except that the instructions are poorer. Even the decal sheet still says ICM on it! The IDK instructions are all in Russian except, thankfully, the painting guide is still in English, whereas the ICM kit is dual language. The IDK instructions have different construction steps, but the illustrations are taken from the ICM instructions and reorganized. The kit consists of 20 sprues of 782 parts, plus six major hull pieces. Now 360 of the parts are the individual links, but that still leaves a lot of parts. There is a basic interior that includes a turret basket for the main turret and rounds. Another down side of the IDK kit versus the ICM one is that the box is much thinner and the bags for the sprues are very thin.The results were that there were a number of broken pieces that were not present in my ICM kit. As mentioned, I have included all the aftermarket items that I am aware of for this kit. This includes the Eduard photo-etch set, Model Point barrels and Friulmodellismo tracks. Unfortunatley, no one has jumped in to provide any additional interior components, which is a shame considering how open the tank can be displayed.

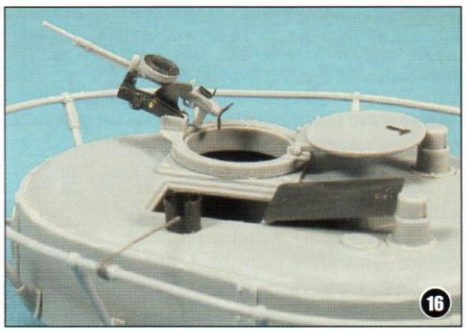
Lets start our engines

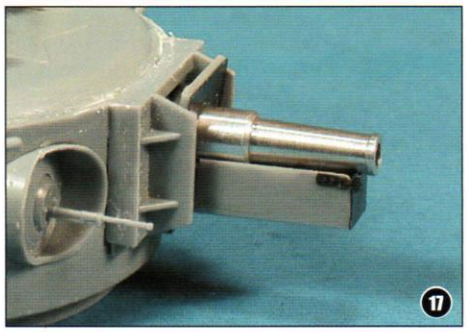
I started by assembling the engine and drive train/transmission. The instructions are very good at providing detailed painting instructions but forget to tell you to first assemble some pieces. A good example is that the cylinder heads are shown already assembled, but not numbered. I assembled the engine as far as I could go, but left off the cylinder heads and other items that were to be painted. I sprayed the main engine and transmission Tamiya XF-20 medium gray, and the other parts XF-16 flat aluminum. I used Vallejo gunmetal on a few other parts, then glued them all together.

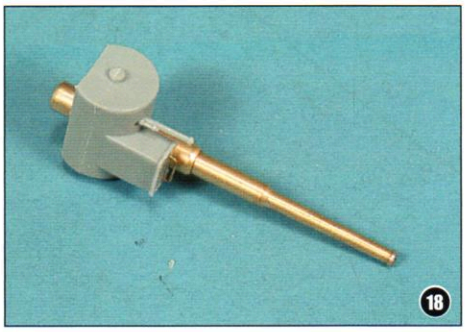
The main hull is made up of three pieces, which went together with no real alignment problems.

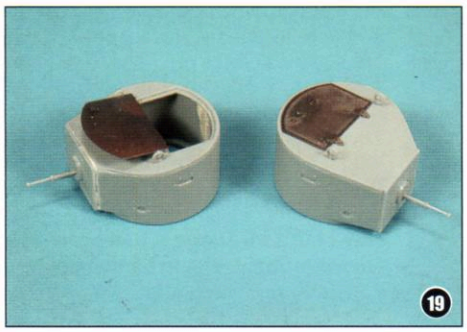


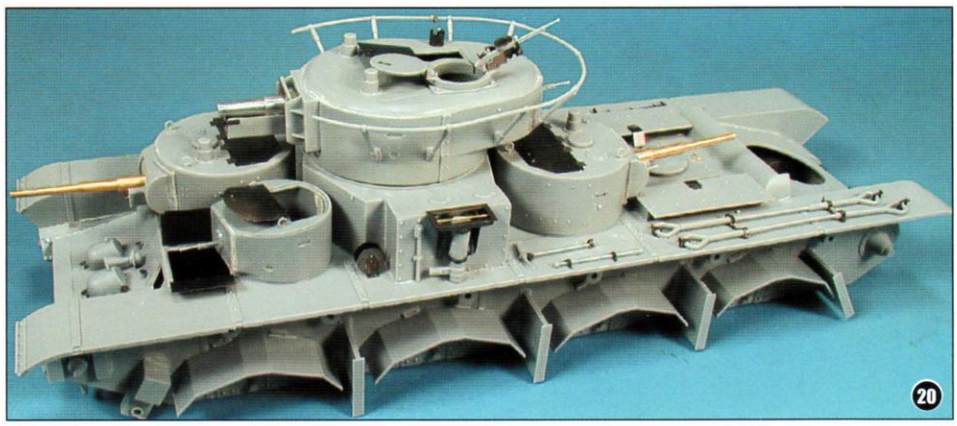












13. This shot shows all the tool storage complete, including replacing the driver's hatch. 14. These are the best part of the kit. There are five complete DT machine guns. The Eduard set does add some details. 15. The completed main turret. The antenna ring was added last. 16. The anti-aircraft DT machine gun had a new mount made from photo-etch parts. 17. The Model Point barrel only had to be inset a little. Notice how delicate the coaxial DT machine gun is. 18. The Model Point 45mm barrels needed to be glued in with some of the rear sticking out. Otherwise, it would have been too long. Also, notice the small brass handle underneath the mantlet. 19. The two DT machine gun turrets. Although very sparse in interior detail, I did leave one of the hatches open to show the machine gun and provide another look inside. 20. If this guy could float, it would be classified as a battleship.

Additionally, there are two bulkheads that help to keep it square. The interior of the upper and lower hull was sprayed with Tamiya XF-2 flat white. The engine and transmission were then glued into the engine compartment.

The driver's seat and his controls were glued onto the forward compartment floor, then it was also sprayed flat white. The seat was painted red/brown leather using Vallejo paints. The completed floor was then glued into the forward compartment. The whole interior was then given a wash of black oil paint, plus the rear engine compartment was given an extra wash of black/burnt umber oil. After the wash dried, I dry brushed with white and burnt umber oil paints.

Adding the top

The hull top was then glued on, rather than waiting until later. I started by gluing the front end together, then the rear and last, the center section. I then went back and added the major pieces on the sides for the suspension, except the bogies and return rollers. These were to get painted separately and added later.

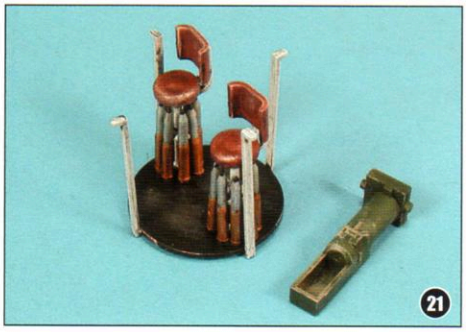
I then started detailing the hull top by replacing the grills on parts T8 with photo-etch screens. The two boxes on the sides of the superstructure are not mirrored like they are supposed to be, so I turned one over. I then built the replacement mount for the jacks out of photo-etch parts and brass wire. I think they look a lot better. For the jacks, I removed the molded on straps and replaced them with photo-etch parts. The jack handle was used straight from the kit, since the photo-etch mounts did not match any of my reference shots.

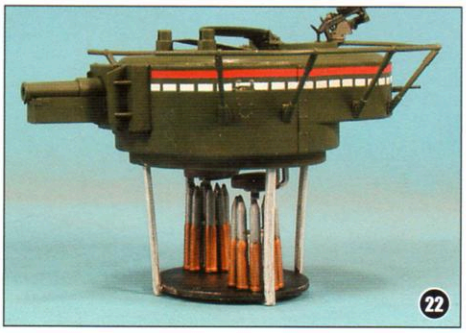
The rear exhaust grill was now tackled. I debated for a long time whether to remove the styrene louvers and use the photo-etch parts. I finally weakened and installed the photo-etch ones. It was not as hard as I thought, but you be the judge if the effort was worth it or not. These louvers are adjustable on the real tank, so I put them in at a steeper angle, allowing you to see the fan better. The muffler was badly warped and required some work before it was assembled. Additionally, it required a lot of filling around the exhaust pipe. I left it off until after painting, since I was going to weather it differently. I did glue the muffler cover on the deck. I also assembled the engine cover, but used brass wire for the handle and sanded down the bottom to remove some rather nasty mold release holes. I planned to leave the hatch loose so that I could open it later. The main fan housing, K2, was trimmed down so it would fit into the deck, but left off until after painting.

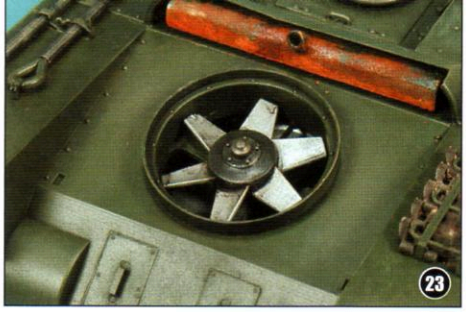
The various pioneer tools were then added using the photo-etch mounts. There are a lot of tools! I left the spare track link set off until after painting was complete. There is one tool that I believe is an engine crank that is not included in the kit. I made one out of brass wire and used some of the extra photo-etch straps to mount it. The headlights were a disappointment. The molding was not complete on the inside of either hood where the reflectors install. There was no way to save them, so I had to glue them in the down position. Due mainly to the poor packaging, the two ladders were in a number of pieces. I was able to reassemble them with a lot of glue and patience. I replaced the driver's hatch with the photo-etch one, which included removing the oversize, molded on hinges.

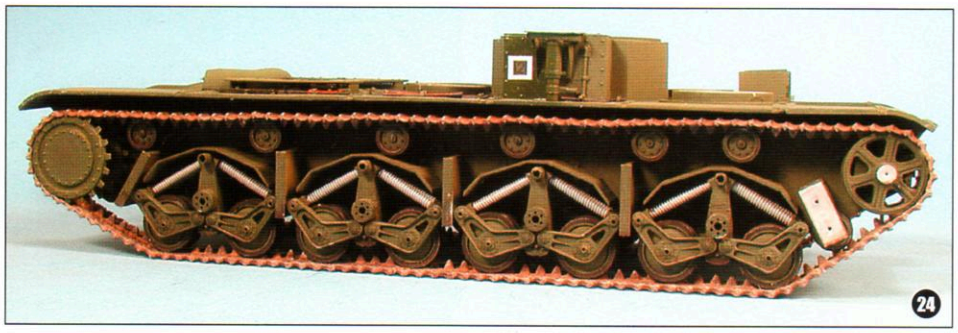
How many turrets was that?

The turrets were as much work as the hull because of all the parts. First, and this is true for all the turrets, they do not provide any pins or alignment holes for any of the pieces. You just have to butt them up against each other and glue. I started









21. The breech and basket were painted and weathered separately. 22. The main turret complete and ready for installation. The decals were particularly hard to get on. 23. The fan was sprayed with flat aluminum and then weathered. The muffler was rusted using a two-step process. 24. The suspension parts were all spray painted while still on their sprues. They were then cut off and assembled. All of the bogies and the return rollers fit so tight I did not need any glue. You can also see that the track has been installed.

The main turret was a mini project in itself. First, I assembled the basic pieces for the turret. I then built the basket and seats, but did not add the rounds until after painting. I also left the basket off. Next, I added the hatches (all open) and the other details. I did notice here the lower grade of plastic used in the IDK kit as compared to the ICM one. When I was scraping off the periscope mount, the surface of the turret just started to flake off. I had to go to my ICM kit to replace it. I detailed the DT machine gun and its mount using the Eduard parts. I replaced the 76.2mm barrel with a turned aluminum one from Model Point. The last thing that was added was the antenna, which was actually pretty easy. I ran a wire made of thin solder wire from the turret to the antenna ring.

You'll need lots of paint

Now the painting, and there is a lot of painting. You actually get a few choices for colors on this guy since he was around for so long. I chose to base my model on a photo taken during an exercise near Kharkov in the summer of 1936. This unit is the 5th Heavy Tank Brigade. The color illustrations for this unit show what appears to be a dark green color. I chose olive green, because the color seemed close. For the suspension parts I took the easy route and left all the parts I could on their sprues, but trimmed them as much as possible. This included removing all but one connection to the sprue. I first sprayed the roadwheels and return rollers with Tamiya XF-1 flat black. Then, using a mask, I painted the centers of all the roadwheels with Tamiya XF-58 olive green. The shock absorber springs were painted Tamiya XF-16 flat aluminum, along

with the two smaller machine gun turrets. I assembled one with the hatch open and the other one closed. Probably the best part of this kit is the little DT machine guns. They are beautifully molded with very good detail. Eduard does provide some nice additions, which I used to add more detail. I also drilled all the barrels out. The two 45mm tank gun turrets were next. Since there was no interior provided at all, I decided to leave the hatches closed. I used the Model Point 76mm turned brass barrels, which are brilliant. These are actually two parts. I drilled out the mantlet and using scale drawings, measured the correct distance the barrel should protrude.

with the 76mm rounds. The bogie housings and the rest of the tank were painted in olive green. The turret basket and turret interiors were painted with flat white to match the rest of the interior. The 76mm casings were then painted with Vallejo brass paint. The seats in the basket were painted red/brown leather and the floor was painted black. The breach assembly, which had not been attached, was painted olive green. All the machine guns and mounts were painted with a mixture of gun metal blue and black. The muffler was painted with a two-step rust process. The first step is to paint the muffler with a gray iron oxide type paint and then add several coats of a rusting agent.

I then assembled the bogies and slipped them on their mounts. The fit is so good I did not have to glue them on. The Friulmodellismo tracks were then assembled. This proved to be very easy, since they required no redrilling. I soaked them in vinegar for about six hours and then gave them a five-minute bath in "Blacken-It." Finally, I scrubbed them with a 3M Scotch pad to bring out the natural metal color and mounted them on the tank.

Now for the hard part, the decals. Of course, I chose the hardest turret markings to do. Since I wanted to use the very colorful turret markings seen on the tanks in the exercise mentioned above, I had to use the kit's decals. I first sprayed all the areas to receive them with Tamiya clear gloss. I was lucky. Since I had two kits, I had a few chances for mistakes. The decals look pretty bad on their sheet and there is a lot of film around them that requires careful trimming. I learned after two bad starts on the rings to cut them into short segments and put them on one at a time. I finally managed to get them on after a lot of swearing. I then liberally coated them with Solvaset, which usually works great on decals. However, these little buggers even defied this strong setting solution. I ended up soaking them in Solvaset, then going back and pressing down with a soft cloth to get all the decals down around the rivets. Normally, Solvaset dissolves the decals so much you don't dare touch them until they are dry. I added the large stars on the top and side skirts. They looked pretty good, but I made a mistake and used more Solvaset on them. It was not a good idea and it wrinkled them a little. The wrinkles did not entirely come out, but they are not very noticeable. Once everything was dry, I sprayed the model very lightly with Polly Scale clear satin and a little clear flat to dull it down.

The model was then given a wash of black oil and then drybrushed with white, sap green and burnt umber oils. The side skirts were finally glued on, as were the ladders. The machine gun barrels and tools were drybrushed with a mixture of Rub n' Buff silver and burnt umber oil. I glued the muffler in and then added the fan cover last. I lightly sprayed this area with a very thin black paint to simulate exhaust smoke.

Which kit to buy

After having built this IDK kit I can conclusively say the ICM is a much better kit. Don't believe the press about it being an improved ICM kit. The overall molding was not as good and it is obvious the IDK is just a cheap copy of the ICM product. That is the bad news. The good news is that if you can only find the IDK kit, it is still very buildable. I really loved this big monster once it was complete. Even with the limited interior, it still looks pretty cool opened up. The Eduard set is a must on this kit as are the Friulmodellismo tracks. The Model Point barrels are also a nice addition. Stay tuned for the second part of this article when I build the conical turret version of the T-35A using the Azimut conversion kit.

—Jim Hensley

MMiR RECCE

IDK Models T-35. Kit number 035004, Suggested Retail $31.95.
Eduard T-35. Kit number 35316. Suggested Retail $22.99.
Friulmodellismo T-35 Tracks. Kit number ATL-75. Suggested Retail $32.00.
Model Point 76mm barrel. Kit number 3503 KT-28. Suggested Retail $5.00.
Model Point 45mm barrel (mod 1934) x 2. Kit number 3501-1 20K. Suggested Retail $6.00 each.

References

Kolomiets, Maxim & Kinnear, Jim. *Land Battleship The Russian T-35 Heavy Tank*, Barbarossa Books, UK 2000, ISBN 0-953877-1-X. A good book and the best one in English with a number of great illustrations.

Medium Multi-Turret Tanks of the Red Army From 1930-1941, (T-35/CMK/T-100), Frontline Illustration, 5-2000, Russia, ISBN: 5-901266-01-3. Although mostly in Russian, the captions are in English and they have the best illustrations that I have seen. They are much better than those in the Barbarossa book. If you can still find this book, it is a must.

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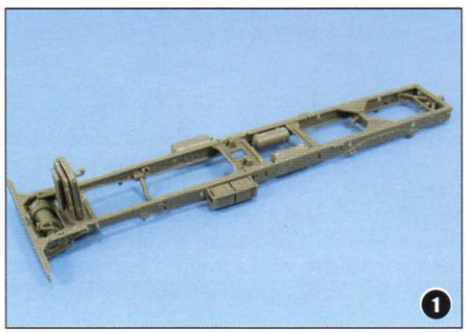
THE FLYING TELEPHONE POLES ARE HERE!

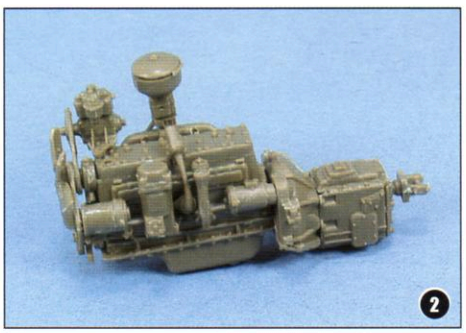
Building the new Trumpeter SA-2 Guideline SAM

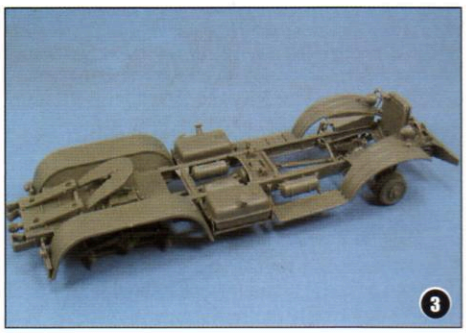
The Soviet SA-2 missile has the NATO nickname of "Guideline" and the official designation of V-75 Dvina. It used to be the most widely deployed Surface to Air Missile (SAM) in the World. It is also famous for a number of incidents throughout its operational use. The first, and perhaps, best known, was the shooting down of Gary Powers in a CIA U-2 over Russia on 1 May 1960. Talk about a May Day present for the Kremlin! It was also responsible for shooting down a U.S. Air Force U-2 in Cuba on 27 October 1962, which escalated tensions during the Cuban Missile Crisis. It was widely used to defend Hanoi during the Vietnam War and was also responsible for claiming a number of B-52's during some of the more intensive bombing campaigns. The bomber crews called them "flying telephone poles." I remember it was said they were actually volley-fired at the B-52's, rather than by using their radar. The last incident that I am aware of is when they tried to shoot down a SR-71 over South Korea back in the early 80's. It missed, but the pilot reported seeing the missile explode close to him.

The SA-2 was first conceived after the SA-1 "Guild" was almost completed in 1952. It was to be the next generation of high altitude intercept missile. The first criteria that was directed towards the SA-2 was, unlike the SA-1, which required massive fixed sites, the SA-2 was to be at least semi-mobile. The second improvement was that it was to have better early warning and engagement radar. Lastly, it was to have a higher altitude intercept capability to counter the growing U.S. bomber fleet threat. Actual development began between 1952-53. The primary designer was the Lavochkin Bureau that was famous for its fighter aircraft designs during WWII. Oddly, the engagement radar design was greatly helped along by the American scientist Dr. Willard Lewis. Lewis was working for Bell Laboratories in 1954 when he applied and received a patent on a new electromechanical radar-scanning concept. The patent, of course, was unclassified and all the Soviets had to do was purchase a copy. The first test of the prototype SA-2 took place in 1954, which is a pretty fast development. Because the SA-1 was a failure and ended up only being deployed around Moscow, it was decided the SA-2 would be the SAM to be deployed throughout the Soviet Union. The first deployments took place in 1957, with full deployment beginning the next year. The first public showing took place in Moscow on 7 November of the same year. The production run for this weapon was enormous, even for the Soviets, and 4,800 launchers had been built by the end of 1968.

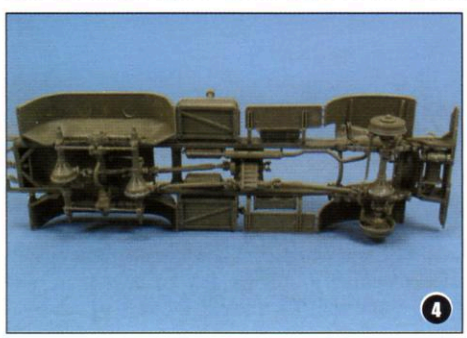
The SA-2 system consists of a two-stage command guided missile fired from a single rail launcher. The missile is transported on a trailer, which also serves as the resupply platform for loading the launcher. There is no crane or other equipment needed for this reload function. The transported missile was originally pulled by a ZIL-157V and later a ZIL-131V truck.

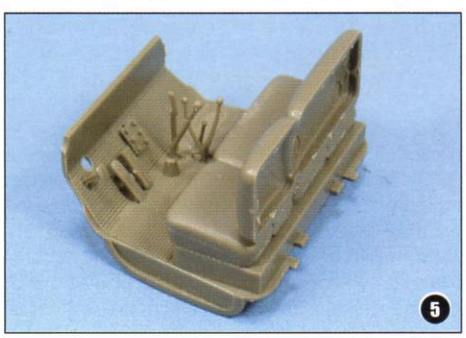


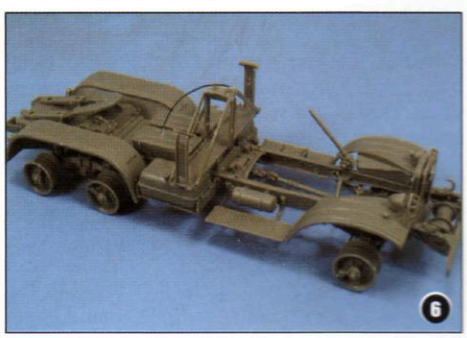


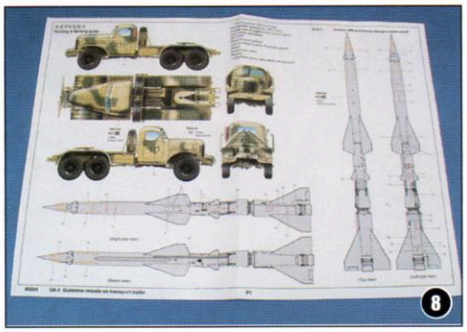


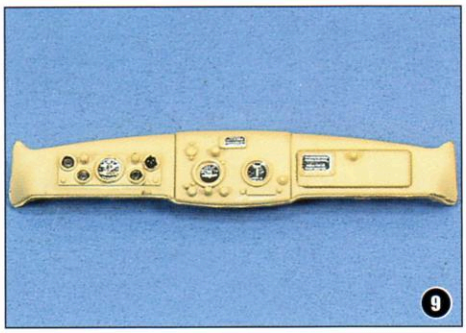
1. The basic truck frame is made up of individual pieces. This means you need to be careful with alignment. 2. The engine is a work of art. There are 36 pieces in it and even the fan blade is scale thickness. 3. The fit of all the parts is excellent. The fuel tanks have a number of pieces to detail them. 4. You can see some of the drive shafts here. A word of advice is, once they are in place, put some glue on them. Otherwise, they tend to come loose. 5. All the gears and pedals come in the kit. The seats have large mold release holes on their backs but they are hidden in the final assembly. 6. This was as far as I could take the construction until painting started. You can see I left the engine out, consequently the cab had to remain off also.

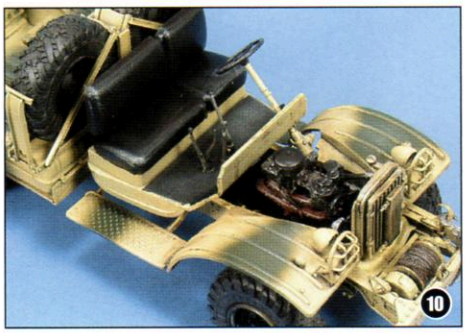


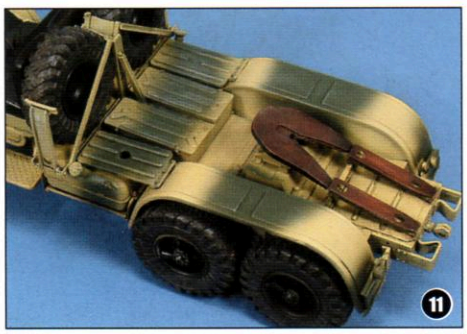


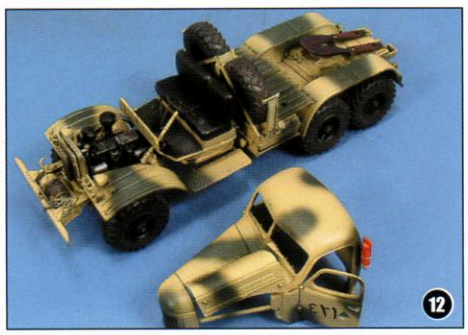


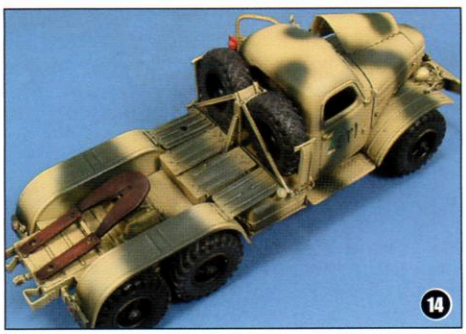












7. The cab was another work of art. The whole cab is one piece. You get the option of having one or both sides of the hood open to show off the engine. As you can see, I opted to show off one side. 8. The kit includes this two-sided full color poster on glossy paper. 9. The dashboard was painted, then decals from Fingerprint Design were used to add dials. Oddly, with all the decals, this is the one area they did not include in the kit's sheet. 10. The engine was painted along with the rest of the truck parts and installed. A wash of burnt umber and black oil was given to dirty it up. 11. The fifth wheel was painted with rust, then dry brushed with burnt sienna and silver paint to give it that greasy, dirty look. 12. The cab and main truck were completely painted and weathered before the cab was glued on. This allowed me to add the windshields and rear window easily before attaching the cab. 13-15. Using the poster as a guide, I painted the cab with a mixture of colors to represent sand, then sprayed it with dark green. Only the cab was camouflaged this way, since the trailer was plain.

The engagement radar associated with the SA-2 is the NATO named "Fan Song" and the target acquisition radar is the P-8 "Dolfin," or NATO codename "Knife Rest A," or B. The Knife Rest was not up to the task, so it was replaced with the P-12, NATO codename "Spoon Rest A." The early warning was provided by the P-15 radar, code-named "Flat Face." (insert you favorite mother-in-law joke here)

A typical site for the SA-2 was a six-launch position site, often resembling a six-pointed star. Along with the launchers, there would be a Fan Song and Spoon Rest located at the firing battalion site and the Flat Face would be located some distance away. The SA-2 was deployed not only in the former Soviet Union, but also in all the former WARSAW Pact countries, plus a large number of middle East countries, North Korea, India, Vietnam and, of course, China. The Chinese version is actually a direct copy and is called the Hong Qian HQ-2J "Red Flag," or the U.S. codename of CSA-1.

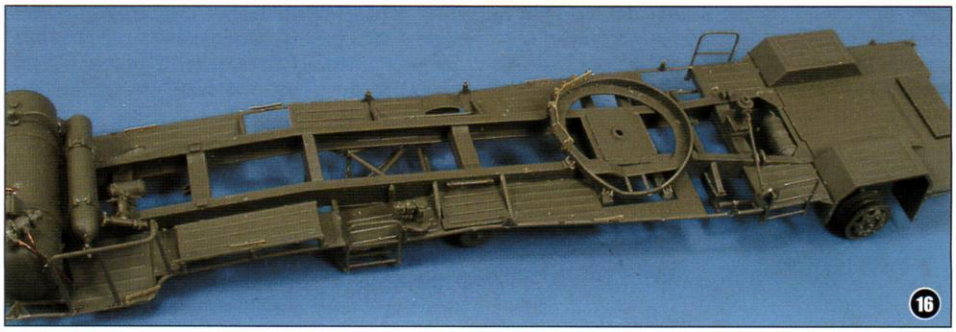
The SA-2 missile itself went through a number of upgrades and the first significant one was the SA-2B "Guideline Mod 1." The missile was a little longer than the original SA-2A and also included an improved guidance system, the FAN SONG B. The improved SA-2B was first tested in 1956 and it began being fielded in 1958-59. The Trumpeter kit is representative of this version.

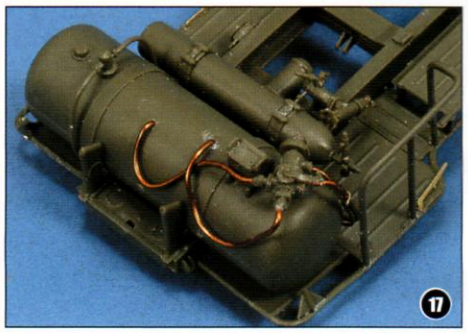
What you get in the box

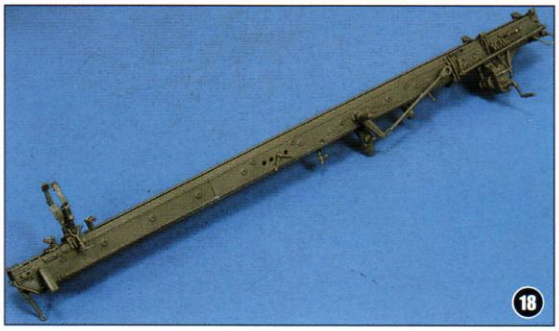
This is another master kit from the ever-growing Trumpeter family. The kit is the Soviet version with the ZIL-157V transporter. There is also a kit with the launcher, plus a Chinese version, the HQ-2. When opening the very large box you are immediately impressed with the number of pieces and outstanding packaging. It sure is different from the crappy kit boxes you get from Eastern Europe! The most delicate parts and all the loose pieces, like decals, photo-etch and the cab are in a separate, small box. They even wrap particularly delicate parts in foam rubber on their sprues to protect them. The next thing that struck me was the large, glossy foldout sheet with a painting guide for the Soviet and Egyptian versions. The instructions are, if possible, even better than the ones found in the DF-21 Missile Launcher. The 24-page booklet includes excellent line drawings and detailed painting guides for every piece. Now, the truly amazing part of the kit is, of course, the plastic. This comes in 13 sprues, 11 in dark green plastic, one in gray (the missile) and one in clear. The count on the pieces is around 538 and remember, we are not talking about any individual track links here. As mentioned, the cab is molded in one piece and there is a 20-piece photo-etch set, plus eight hollow rubber tires, brass wire, spring tubing and string. The decal sheet is extensive, with a gazillion markings, mostly for the missile, plus markings for Egyptian, Soviet and North Korean missile carriers. All the castings are excellent, with little or no flash, and very delicate. You get the ZIL-175V tractor, trailer and, of course, one SA-2 missile. The truck is truly amazing. I had the feeling while building it that I was building the real thing because of the total completeness of the drive train.

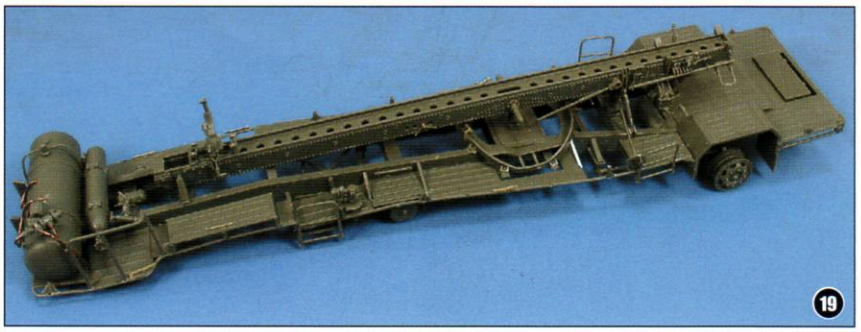
Building the tractor

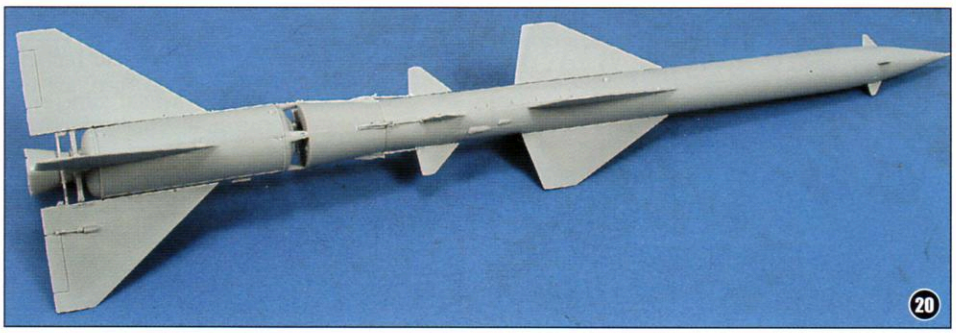
Because of its complexity, this kit needs to be built pretty much according to the instructions. I decided to build as much as possible before painting but did plan to leave some major components separate to make painting easier. The first step is to assemble the engine, which consists of 36 parts! I followed the instructions without any problems. I was very impressed with how detailed this engine was compared to other engines I have built. The bumper and winch were next, followed by sub com-

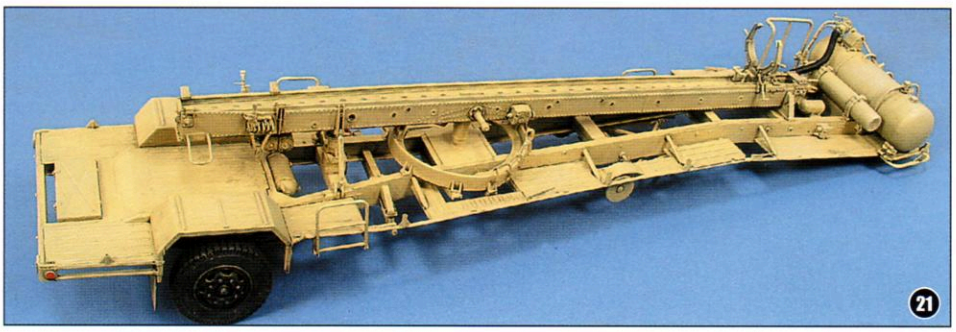


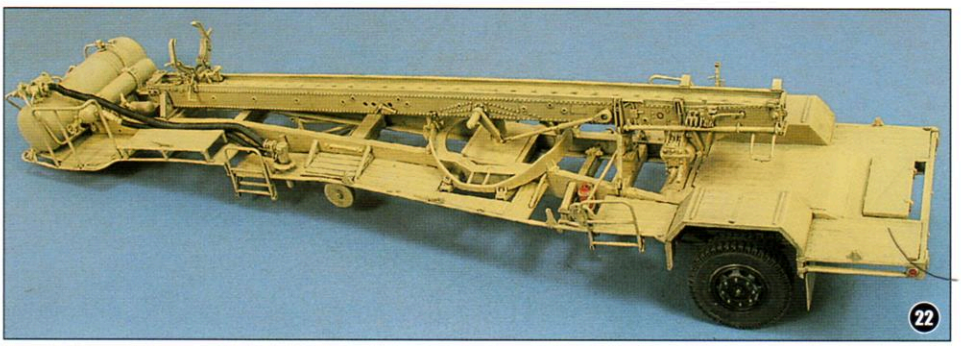












16. The trailer was an easy build with the exception of the photo-etch brass around the turntable. 17. I should have drilled out all the holes on the pumps before gluing them onto the tanks. The kit only suggests gluing them butted up against the pumps, but I felt that would be too weak. 18. The rail was assembled separately and only glued on at the last stage. It can rotate if you choose to have the missile being loaded onto a launcher. 19. The completed trailer before painting. I did leave off the two spring hoses on the trailer until after painting. 20. The SA-2 was a piece of cake to assemble. The body halves went together with only minimal clean up. 21. The trailer was painted with the same paint I used on the cab. The taillights were painted gloss red and the tires flat black. 22. The hoses were added after painting was complete since they already had a great natural color.

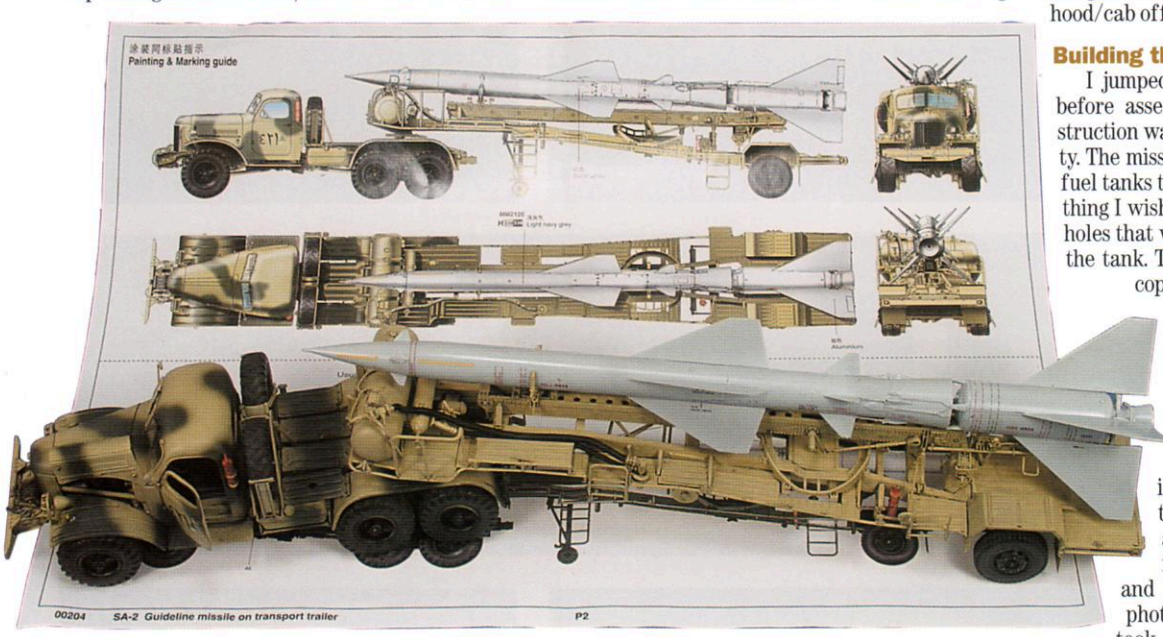
ponents for the chassis. I then assembled the main truck frame using all the cross member parts. You have to take your time here to be sure the frame is square and level. I then assembled the five-piece radiator and glued it on the frame. I did leave the engine off until after I had painted it.

The next items were the front wheel drums and brake assemblies, which again were beautifully detailed. These were then glued to the front springs and the tie rod was added. The only negative thing about these pieces is they are a little too delicate (if that is possible), but they are definitely to scale. I jumped ahead since I wanted to get this forward unit on. I glued it to the frame, which is step 11. I did have to leave off the power shafts, F-39 and 40, from the winch to the engine until the engine was installed. The rear axles were then assembled and installed. The drive shafts are connected by just slipping them together. The problem I ran into was in later handling they kept coming apart. My advice is that once these bad boys are installed, put some glue on the joints. The muffler and tail pipe were glued on after I drilled out the pipe. The central point gear housing was glued in next, along with all its associated drive shafts.

The two fuel tanks were then assembled and again, the detail is really remarkable on even these pieces. The forward fenders were assembled, but I left the lenses off the headlights until after painting. You get a choice of using the plastic headlight guards, or the photo-etch ones. To be honest, there is nothing wrong with the plastic ones. And since photo-etch ones were so delicate, I did not want to deal with them and I am sure they would not look as good anyway.

I now glued on the rear deck, H1, and the fifth wheel assembly, but left the storage boxes, H3-5, off so I could paint the tanks underneath first. The forward fenders were then glued on, followed by the rear ones. Again, the fit for all these parts is excellent. The spare tire bracket was assembled and then glued on. You do get a choice of a photo-etch support, #8, for this part, but again, there was not

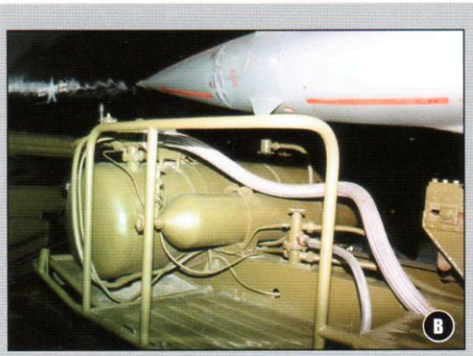
much difference, so I went with the plastic piece. The cab floor is amazing. You get all the pedals and gearshifts and the molding is beautiful. After I finished the cab interior, I left it off until after I started painting. As mentioned, the cab shell is a beautifully molded, one-piece part and very fragile, which is why it is wrapped separately and placed inside a box within the kit box. I added the doors, leaving one open, but did not put the rear view mirrors on since I have a bad track record of breaking these guys off before completing the model. All the clear plastic pieces were also left off for now. I wanted to show off that engine, so I opened one side of the hood. I scored the left hood side and bent it up and glued it to the cab. I left the completed hood/cab off until after painting was complete.

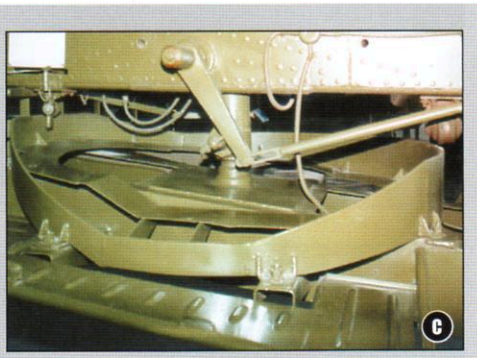


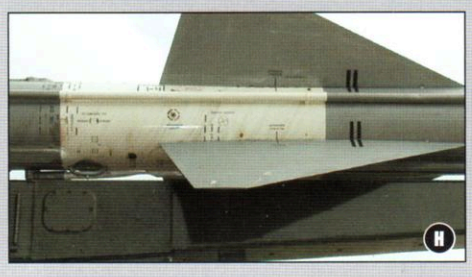
The completed model on the kit poster showing the guide I used to paint it. The missile is covered head to foot in decals. These took a good couple of hours to get on.

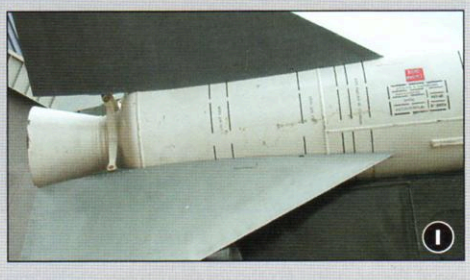
Building the trailer

I jumped ahead and started on the trailer before assembling the missile. Again, the construction was straightforward with little difficulty. The missile rail was assembled first, then the fuel tanks that go on the front of the trailer. One thing I wished I had done was to drill out all the holes that would end up accepting brass wire on the tank. The valve, L63, has two places where copper wire goes and I had to drill them out after gluing the valve to the tank. The instructions just have you butt the wire against the valves but I know they would not be strong enough. The trailer itself posed no problems. I wanted my trailer in the travel mode, so I glued the parking wheel assembly in the raised position, along with the three ladders. One thing that was apparently left out of the instructions is the photo-etch options for parts K3 and K4. These are parts 1 and 2 on the photo-etch sheet. Once I noticed these, I took the plastic parts off and replaced them. They definitely look better. There are two









The first series is from an SA-2 on a ZIL-131 transporter at Duxford taken four years ago. A, B. The forward fuel tanks that are used to fuel the missile before it is loaded onto the launcher. C. The turntable, which allows the rotation of the missile and rail to load it onto the launcher. D. The smaller rear supports for the missile, which actually clamp on the booster. This next series was taken at the U.S. Army's Missile and Space Intelligence Center (MSIC) Red Stone Arsenal, Alabama. I took these photos on a visit last year. E. This SA-2 is now a door guard at the Missile and Space Intelligence Center, Red Stone Arsenal, Alabama. F. The launcher normally has a dolly that looks like a regular AAA gun when in travel mode. G-I. Detail shots of the SA-2 missile.

hoses made from springs, which are really neat. They include copper wire to put inside to help form their shape. I did leave these off until after painting, since their natural color was already correct.

Building the Guideline missile

The missile, which consists of two stages, was a very easy build. I first glued the main body and booster halves together and let them dry. I then cleaned up the seams and attached the fins. You should not do any filling on the fins. These are actually bolted on the missile assembly points just prior to deploying the missiles, so they should have visible seam lines.

Painting everything

I decided to paint my kit like an Egyptian SA-2 used in the 1973 Arab-Israeli war. The colors recommended in the instructions were not available at my hobby store, so I mixed my own. I took Tamiya XF-59 desert yellow, XF-3 flat yellow and XF-2 flat white, mixing it in a ratio of approximately 40/20/40. I actually painted and finished the pieces separately, so I started with the tractor and sprayed it with this new light sand yellow. I sprayed the engine and wheel hubs with Tamiya XF-1 flat black. I then sprayed the camouflage pattern on the tractor with Tamiya XF-61 green. The engine was then painted with Vallejo paints following the detailed instructions and then glued in place. All the connecting drive shafts were attached and then the cab floor piece was glued on. I sprayed the two doors with Tamiya clear gloss and applied the decals. The decal sheet includes markings for a North Korean vehicle, but no guide for painting. I believe it should be the same dark green as the Russian version. Interestingly, there are some nice Arabic letters (?) but I have no idea where they would go, since they are not mentioned and I could not find any reference for them. I ended up just using the two door markings and then giving everything a light coat of Polly Scale clear satin. Everything was given a wash of thin black oil and lightly dry brushed with white. The engine was given a wash of thicker black/burnt umber mix. The windshield and back window were then glued into the cab, along with the windshield wipers and, finally, the rear view mirrors. I decided to leave the side windows rolled down, so I left the clear parts for them off. The cab was then glued on and the tires put on.

The trailer was sprayed with the same mixture of light sand yellow. According to the painting guide, the trailer was not camouflaged. I also sprayed the wheels black. It, too, was given a light coat of clear satin and finished like the tractor. The two large spring hoses were glued on last.

The missile was sprayed with a Model Master light gray paint. The trick with this guy is that there is a pile of decals, so I decided to use Future Floor wax on it. I sprayed several light coats and then let it dry forever. Actually, about three days, since I have found that if you try to put decals on too soon, the wax will run. Now for the only disappointment in the kit. Apparently, whoever was tasked with doing the beautiful color artwork for the poster and labeling it did not talk to the guy doing the decal sheet. None of the numbers are correct! Now, this could be a problem if the illustrations were not so detailed, but I had no trouble figuring out where the decals went. After they were all on, I sprayed the missile with more of the Polly Scale clear satin.

What a kit!

I have to admit, and I know some may find this heresy, but I think Trumpeter has surpassed Tamiya with this kit. I have never seen a more complete model and the illustrations in the instructions are perfect. This is especially important when dealing with some of the many small parts. Despite all the parts, I was able to build this complete kit in a week, not counting waiting for the Future wax to dry. I only wished I also had the launcher to build. It would make a great little diorama having the SA-2 being loaded onto a launcher. For the price, I just don't see how you can beat this guy. It is so hard to believe how far Trumpeter has come from just a few years ago when I first saw one of their very crude toy-like kits, which no glue known to man would hold together. It is a truly amazing transition.

—Jim Hensley

MMiR RECCE

Trumpeter SA-2 "Guideline" Missile with Transport Trailer. Kit number TR204. Suggested retail price $49.95. Kit graciously provided by Trumpeter's U.S. import agent, Stevens International.

References

Zaloga, Steve. *Soviet Air Defense Missiles*, Jane's Information Group, United Kingdom, 1989 ISBN 0-7106-0589-7.

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Express Delivery

The Eastern Express KV-1 Model 1941

The KV-1 grew out of heavy tank designs in the late '30's that spawned the multi-turreted T-28 and T-35. The KV was a more conventional design; heavily armored, but equipped with a light-weight 76.2mm gun. It began its service in the summer of 1940 among sporadic tank units. By the time of the German invasion of June 1941, the gun had been upgraded, and it proved to be a shock to the opposing troops that could not penetrate its armor. It enjoyed almost indestructibility until the following spring, when the German long barreled PAK 40 75mm AT gun and similarly equipped Panzer IV's made their appearance. Despite continuing upgrades in armor protection and turret configuration, the KV became a liability to the Russian tank units and production ended in early 1943. Heavy tank development continued with the IS series.

Overview

Eastern Express is not alone in marketing a KV-1. Tamiya first issued theirs back in the early '70's. There will be a simple comparison between the two at this article's conclusion.

This kit depicts a late 1941 production KV-1. The primary distinguishing feature of this version was the blocky, welded plate turret with no curvatures at the turret rear. Since Eastern Express makes several KV variant kits, there are irrelevant parts in this kit that can be saved for other projects. Among them are an engine hatch, front armor plate and entire set of KV-1S roadwheels. Oddly, the sprue layout places the cannon barrel on a sprue runner, which caused some frustrating moments looking for it. The turret hatch can be opened if desired. There are no metal detail parts, and each track loop is molded in two segments from a stiff material, like most kits from the decades past. A small decal sheet features one option, which is a colorful and interesting choice. A cartoon of Der Führer receiving a high explosive round from a tank is accompanied by kill marks and a poem. It takes up almost the entire side of the turret. The instructions are the usual exploded-view type, but as is mentioned later, leave out some installation steps.

It must be mentioned that this kit is not state of the art, and does not pretend to be. The word "basic" might be the best way to describe it. Detail is crude in many areas, and seam lines, sink marks, and joint gaps are in abundance. However, fit and alignment are decent and ejector-pin marks are almost nonexistent. In addition, the engine deck has sharp detail to its fittings.

The planned approach was to work with the kit, enhancing the weakest areas using common materials and techniques. However, the first thing to go was the tracks. They were too stiff and lacking in detail. Model Kasten and Friulmodellismo both have perfect replacements. The only other aftermarket addition was a turned aluminum barrel from the Jordi Rubio line to replace the badly shaped one in the kit.

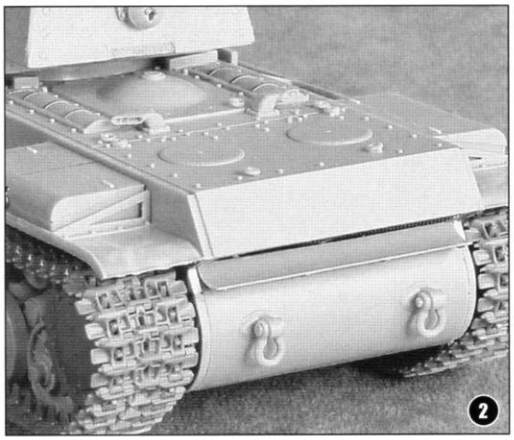
Hull & suspension

Work began with the lower hull, assembling the tub from four panels. No surprises here, so the road wheel arms were cleaned of their heavy seam lines and installed into keyed sockets on the hull. They were not completely level, so careful adjustment by hand on a flat surface was required. The bump stops were also installed after sanding off the raised locator lines. The drive sprocket mud/ice scraper was installed later, making it easier to paint the tracks and running gear off the model. The roadwheels and return rollers were cleaned up and set aside for later.

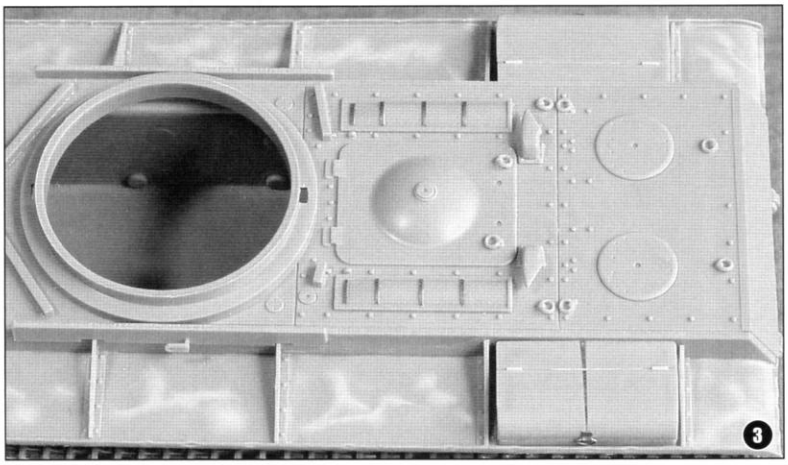
The hull roof was added next, and the rear hull overhang revealed a large opening to the engine compartment. A simple styrene and brass mesh screen was made and placed in this area to improve the appearance. The kit's exhaust deflector plate could be replaced by a thinner one made of distressed metal, if desired. The triangular shaped holes on the rear drive housings can filled by using parts 32 and 33, but they aren't mentioned until the final step of the instructions. The engine deck has some nice detail, but the ventilator grills did not receive the same attention. They are molded solid and do not have crossbars. The arduous task of rebuilding these went beyond the intended basic improvements, so a simple improvement was to add lead foil strips and do some creative painting. The kit's circular lift rings were cleaned up and were decent for their delicate nature. They were added where needed on the engine deck, despite being completely ignored in the instructions. Two exhaust ports were hollowed out with drill bits and round files.

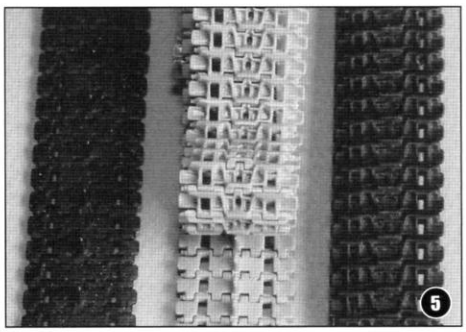
The track fenders were distressed using pliers. The thick support braces lack adequate rivet detail and require lots of cleanup, but replacements can be made from styrene or photo-etch sets, if desired. There are fuel drums and two types of rectangular stowage bins provided for fender stowage. References show that many combinations existed, but only the larger rectangular ones were added to this model. They did not fit between the fender supports, so they were sawed in half and reattached after a 1mm segment was removed. The detail was enhanced by scribing new lid demarcation lines and adding a wire handle.

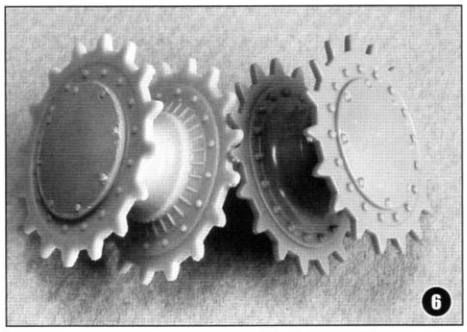
Most KV's were reinforced at the bow with a 30mm armor plate. This addition was made to the kit using .010" styrene sheet and weld beads simulated with A+B putty. The kit's turret race protective plates were scratched with a file to simulate

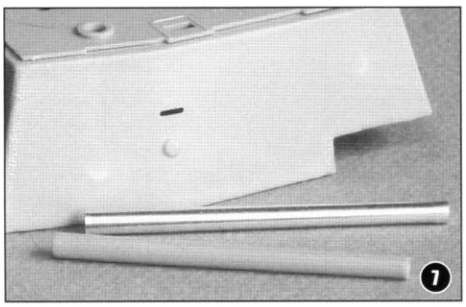


1. A sheet styrene bow plate was added, the light and horn wired, and an MV Products lens used in place of the solid plastic kit one. 2. The large opening under the deck overhang was modified with diamond photo-etch mesh and styrene bulkheads. 3. The fenders were distressed easily using pliers. The intake grills were detailed with lead foil strips, but they could really use photo-etch treatment. 4. The mantlet was textured effectively with Cast 'a' Coat weathering powders. Styrene strips helped better define the welded side plates. 5. A comparison between the kit track and the ModelKasten set in the center shows the big improvement in detail and functionality. 6. The kit sprocket is on the left and the ModelKasten one is on the right. Eastern Express did well with this part, but the ModelKasten one was used just to make sure it meshed with the track properly. 7. Initial assembly of the turret, showing the simplistic depiction of the interlocking plates. The solid plastic barrel was more oval than round, and was easy and cheap to replace with one from Jordi Rubio. 8. The cast texture shows well in this shot. The weld beads on the roof are made from A+B putty. The red number was computer generated and printed on clear decal paper. The worn finish barely shows the green paint underneath. 9. The mufflers were hollowed and painted with pigments dissolved in acrylic airbrush cleaner. The locker handle was made from lead foil and brass wire. 10. The kit provided the tow cable ends, but the cable itself is from Karaya. Seems like a strange location for an antenna! 11. A base coat of green was whitewashed with a mixture of ground pastel chalk and water. When this was dry, it was scrubbed off the wear areas with a stiff brush. The ModelKasten tracks remain workable and remarkably sturdy even after painting. They effectively depict the chunky appearance of the real ones and are a major improvement over the stiff vinyl kit tracks.









torch cuts and put in place on the turret.

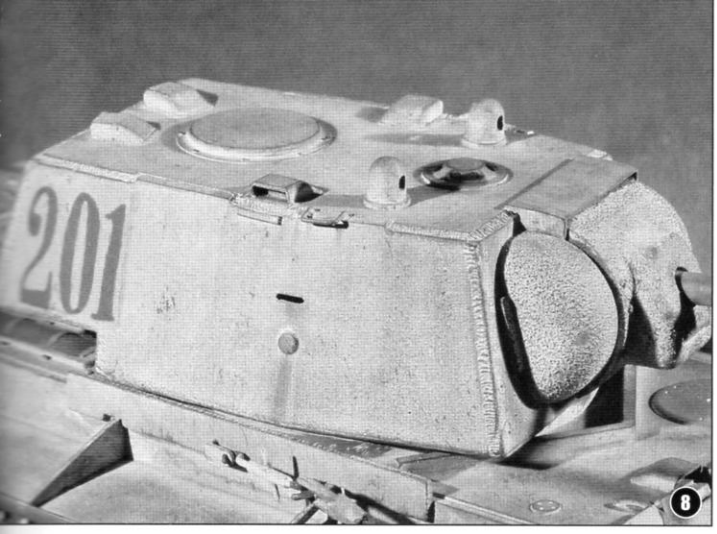
The driver's compartment armor plate also received the torch cut marks. The headlight and horn were wired, and a periscope added to the hull roof. The hollow headlight's solid plastic lens was replaced with MV Products lens #L185. The kit really didn't capture the odd shape of the horn very well. The front and rear towing points were floated into position, since there were no alignment marks. The kit's tow cable ends were cleaned up and mated with a length of Karaya cable. This stuff is great to work with because it's copper wire and can be shaped as needed.

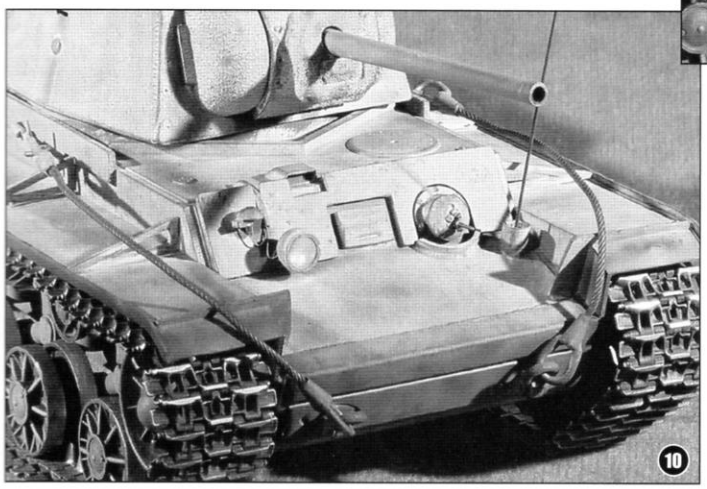
Turret

Many improvements were made to the turret. The turret halves were joined together, and the rear seam repaired. An obvious weak point was at the roof and side plates. In reality, these plates were connected with interlocking dovetail joints and welded, much like German tanks of the period. The kit's depiction does not convey this type of construction, but a few things will greatly improve it. First, styrene strips added to top of the side plates were faired into the side plate, simulating the step in this joint. Then, weld lines were simulated using A+B putty textured with the chuck end of a drill bit. Styrene periscopes were added, and their covers detailed with weld lines. The mantlet needed some trimming before it would fit properly. The cast armor surface was simulated using a new product called "Cast 'a' Coat." The mild liquid adhesive is brushed on and sprinkled with an ultra-fine powder. It should be sealed with a clear coat or primer to prevent damage from handling. The rest of the turret armor was textured in a more subtle way, using Gunze Sangyo Mr. Surfacer 1000, since that armor was not cast. The barrel was not worth keeping, as it was oval in cross section, and had large molding seams down its length. A replacement from Jordi Rubio was the better way to go. Other enhancements added were the wire lift rings on the upper edge and tiny strips of styrene below the periscope openings. The kit's cupola mounted machine gun was short on detail and was discarded.

Tracks

Compared to the kit tracks, ModelKasten workable assemblies are better detailed, sag realistically and provide a much-needed boost to the overall look of the model. Their assembly uses two pins that engage holes in the track links. If liquid cement

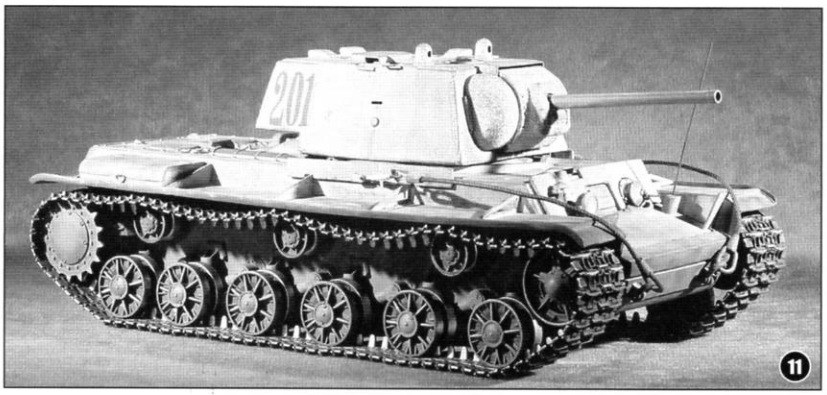




is applied sparingly to these pins, the tracks remain flexible and quite sturdy. The links were sanded at the sprue attachment points, and the inside surface ejector pin marks taken care of once the track run was fully assembled.

Painting and markings

Russian armor just looks good in a scruffy winter whitewash, so first off the markings were chosen to match such a vehicle. Instead of the kit decals, simple red numbers printed from a computer to a sheet of decal paper were used. Gunze Sangyo Flat Black was airbrushed first, followed by a patchy coat of Khaki Green. Next, the whitewash was undertaken by using a base of white pastel chalk thinned with water to a brushing consistency. This was applied with a soft brush. It was allowed to dry, and then a dry, stiff paintbrush was scrubbed on the surface to dislodge the white and rub down to the green undercoat in areas that would take wear and tear. This coating was sealed with a clear finish, and the decals carefully applied to the turret. The decals were sealed with another clear finish, then the lower hull and running gear were airbrushed Flat Black, then with Vallejo Air Earth and finally, Vallejo Air Hemp. The earth colors were carefully airbrushed onto areas of the upper hull that would be splashed with, or accumulate earth grime. Earth color pigment powders dissolved in airbrush cleaner were applied to the lower hull to achieve a dirty appearance. On the whitewashed surfaces, Green was lightly drybrushed in some areas to greater emphasize the wearing off of the whitewash. A thin brown wash was also applied to surface details to simulate dust accumulations. The tracks were first airbrushed Flat Black, then the same earth colors as the lower hull. More of the earth colored pigment wash was applied, and then Silver applied sparingly to the wear areas of the track and roadwheels. The engine deck grills were painted black and drybrushed over with light green to highlight what little detail they had. The exhausts were painted with a rust pigment dissolved in airbrush cleaner. Using pigments in this way leaves a texture that closely simulates rusted surfaces.



Conclusion

It's only natural to compare the Eastern Express KV-1 with the thirty-year old Tamiya KV-1. Dimensionally, Eastern Express seems dead on compared to drawings from the references cited below. Tamiya is short lengthwise on the engine deck, and too wide on the track fenders. Both kits have stiff vinyl-like tracks with simplistic detail, and both have similar levels of molding detail. Eastern Express' strength is the more detailed suspension with separate roadwheel arms. It also has a clean hull without holes for motorization parts. Tamiya included the rivets along the track fenders that are completely absent from the Eastern Express kit. Tamiya also depicted the engine deck grills more accurately and did not leave a large gap in the overhang.

The Eastern Express KV series kits in some ways improve upon the Tamiya kits from the early '70's, but as a whole don't rise above them in significant detail or quality. They are very basic kits with simple detail and no frills. Although dimensionally accurate, the tracks, upper rear overhang opening, and simplistic turret construction detract from its appearance, if not addressed. While aftermarket accessories will improve this kit, a better KV kit straight from the box still deserves to be made.

—John Robinson

MMiR RECCE

Eastern Express KV-1 Model 1941 Late. Kit number 35119. Suggested retail price $30.00.
Model Kasten KV-I/II workable tracks. Set number SK-7. Suggested retail price $26.95.
Jordi Rubio Soviet 76.2mm F-34 barrel. Number JR07. Suggested retail price $5.25.
Karaya 0.9mm Towing Cable (1 meter length). Number KTCM03. Suggested retail price $10.00.

References

Heavy Tank KV, Frontline Illustration, Russia, 2000. ISBN: 5-901233-01-3. Excellent photos and scale drawings of all variants, but Russian text except photo captions.

KV-1 & 2, New Vanguard #17, by Steven J. Zaloga & Jim Kinnear, Osprey, London, 1995. ISBN: 1-85532-496-2. Complete history, including development, combat usage and production modifications. Illustrative photos and color artwork.

Stalin's Heavy Tanks 1941-1945; The KV and IS Heavy Tanks, by Steven J. Zaloga & Jim Kinnear, Concord Publications Co., Hong Kong, 1997. ISBN: 962-361-616-3. Brief development and combat history; many photos and color artwork.

HEY IS THAT A BIG GUN BEHIND YOU, OR ARE YOU JUST HAPPY TO SEE ME?

Building the MAN 7-ton truck and HF-70 155mm howitzer

I was sent a Revell MAN 7-ton truck to build as a review and thought it would be neat to have it pulling something. After digging around, I found out that Hobby Fan had released a kit of the FH-70 155mm Howitzer and thought this would be perfect. Unfortunately, Hobby Fan products are not always easy to find, so it took a while to find the kit, but here are the results.

Truck stuff

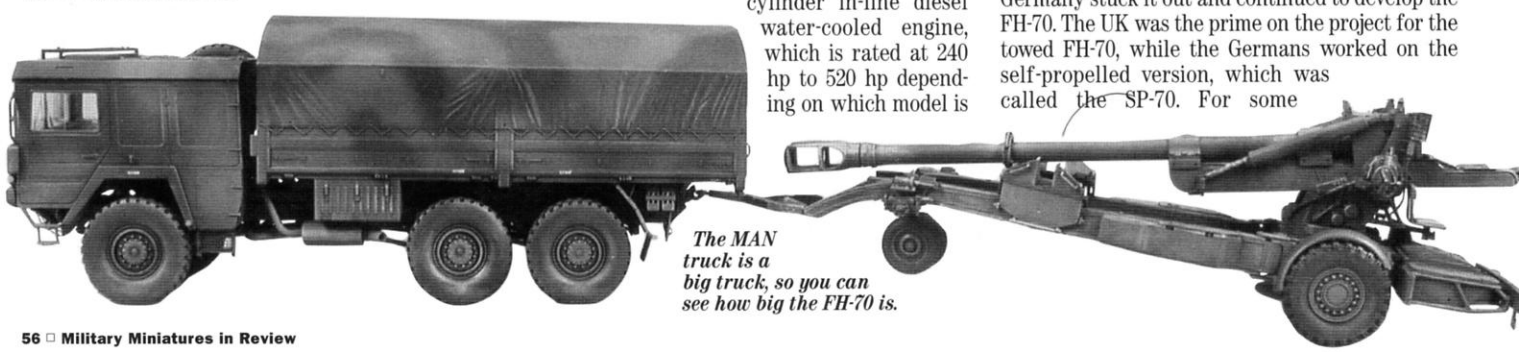
Let's start with the MAN 7-ton, which is one big truck. The MAN 7-ton 6x6 truck can trace its origins as far back as the late 1950's, when the West German Army decided it was time to start thinking about a second generation of post WWII vehicles to meet its ever-increasing role in the western defense. The Federal German Technical Office of Military Purchases drafted a whole new set of requirements, which included not only wheeled armored vehicles but, as my friends in the British Army call them, SSV's, or soft skin vehicles. A number of German companies competed with prototypes beginning in 1964.

The first one squeezed out of this effort was surprisingly an 8x8 armored reconnaissance vehicle now known to us as the Luchs. The Luchs started production in 1964. The truck side was a lot slower and MAN was not even awarded a contract until 1975. MAN was paid to build three configurations, an 8x8, 6x6, and a 4x4. The 8x8 was first off the block when it started production in 1976. The 4x4 and 6x6 started delivery a year later. The first 6x6 delivered was a dump truck. The cargo version, which is the subject of this article, did not appear until January 1979. By the end of 1984, MAN had delivered 14,216 of all the versions to the West German Army. I was not aware of it, but apparently the U.S. Army bought 534 for themselves. Smaller numbers were also delivered to other countries.

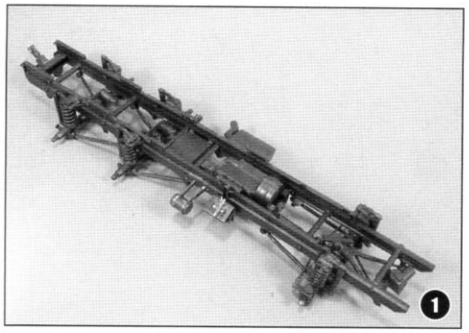
The MAN 7000 kg 6x6 cargo truck uses a MAN 6-cylinder in-line diesel water-cooled engine, which is rated at 240 hp to 520 hp depending on which model is used. The major components, like axles, drive train and so forth are standard commercial items making them cheaper and easier to replace. The engine is up under the cab, which can be raised by hand. The engine can be replaced within 30 minutes. The MAN 7-ton has a maximum road speed of 90 km/h and is the prime mover for the FH-70 155mm Howitzer, plus a number of other items such as bridging equipment and the Light Artillery Rocket System (LARS).

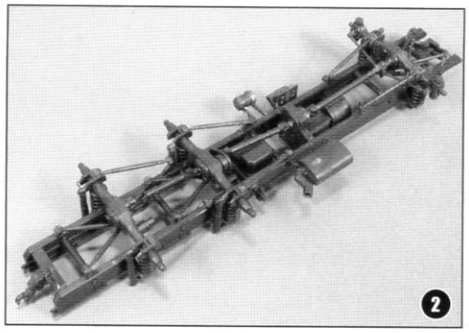
Gun stuff

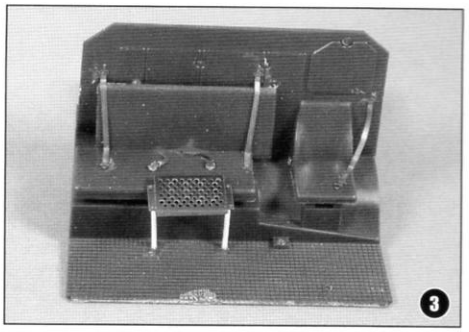
The FH-70 grew out of the period when everyone in NATO was trying to look like they were actually "cooperating." Of course, it did not last long and, as usual, the NATO partners eventually went their own way. However, in the case of the FH-70, something actually got accomplished. The U.S., UK and Germany all decided they needed to replace their aging 155mm M-114 Howitzers and 5.5-inch guns. Since the U.S. was not interested in the auxiliary power unit (APU) component of the requirement, they split from the project early on and developed the M-198, instead. However, the UK and Germany stuck it out and continued to develop the FH-70. The UK was the prime on the project for the towed FH-70, while the Germans worked on the self-propelled version, which was called the SP-70. For some

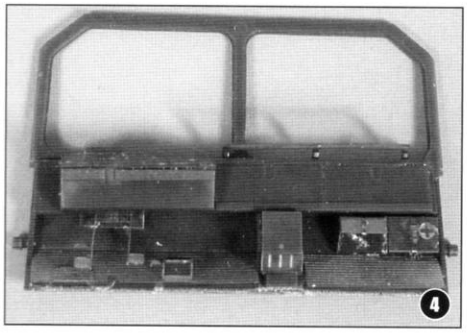


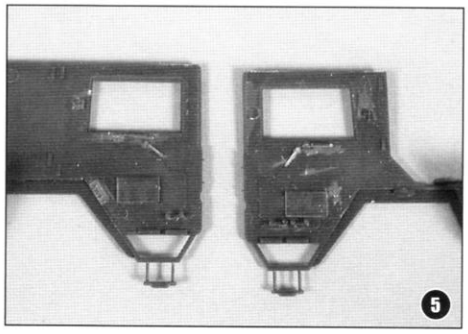
The MAN truck is a big truck, so you can see how big the FH-70 is.

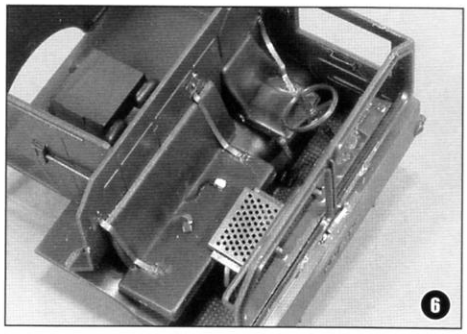


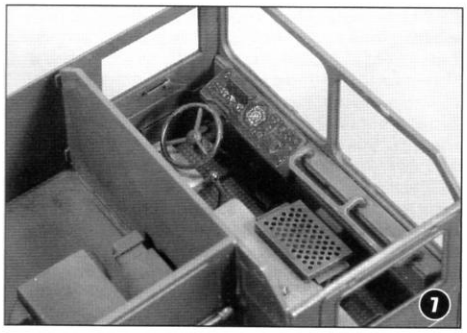


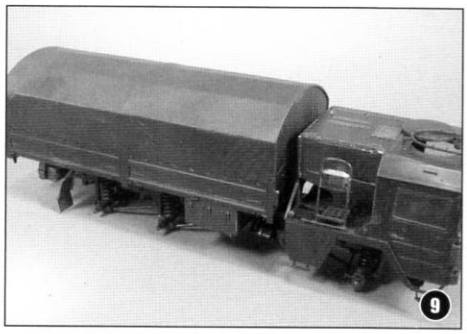












1. The basic frame for the truck is shown here with the main springs and axles in place. The rule here for the springs is "everything vertical." 2. Another look at the frame, but from the bottom this time showing the placement of all the parts. 3. The seats and photo-etch seat belts are shown here, plus I some kind of table that was included in the Eduard set. 4. The forward wall showing all the photo-etch parts, except the main dash panel, which was left off until after painting. 5. The sides of the cab with the photo-etch parts. 6. The cab was partially assembled, then painted before the top and final side were glued on. 7. The dash was painted black, then the photo paper dial backing was glued on. 8. The right side was glued on after painting was complete. The seats were painted khaki after the interior was painted NATO green. 9. The bed was easily assembled because of its few parts and excellent fit. The cab roof was glued on, then the completed cab was glued to the frame. A little cutting was needed to get the cab to sit far enough forward. Also notice the spare tire mount. This is a vast improvement over the kit's solid piece.

reason, the SP-70 was abandoned in 1986. The first six prototypes of the FH-70 were ready by 1969-70. About that time Italy got interested and joined the party in 1970. A second batch of eight FH-70 prototypes was completed between 1971 and 1973. This was not what you would call a fast moving project. The trials did not even start until 1975 and the FH-70 was not accepted into service until 1976.

Germany bought the lion's share of the new gun with an order of 216. The Italians ordered 164 and the UK ordered only 71. The Saudis snuck in with an order for 82. Japan liked the gun, too and started manufacturing the FH-70 under license. Some of the other countries that got these guns were Malaysia, Netherlands and Morocco. According to a friend in Germany, there is only one unit left using the FH-70 in Germany and that is the Franco-German Brigade at Immendingen.

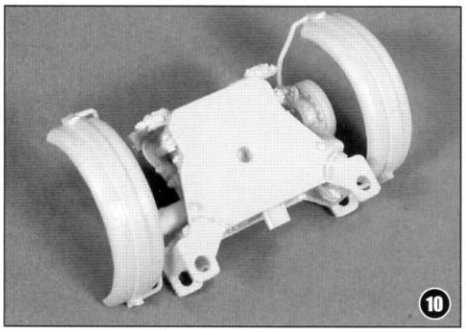
The gun weighs in at 9,300 kg in travel mode and can throw a 155mm RAP round 30 kilometers and a conventional round 24 km. The auxiliary power unit is a Volkswagen gasoline engine. The normal crew for the gun is eight. As already mentioned, the prime mover in the German Army is the MAN 7-ton, in Italy it's the FIAT 6605 TM and the Foden (6x6) in the UK. I am not sure what prime mover is used in Japan.

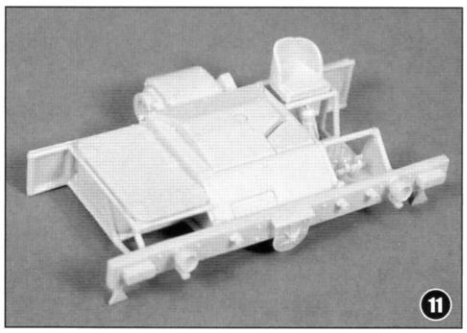
The Revell kit, plus a few extras

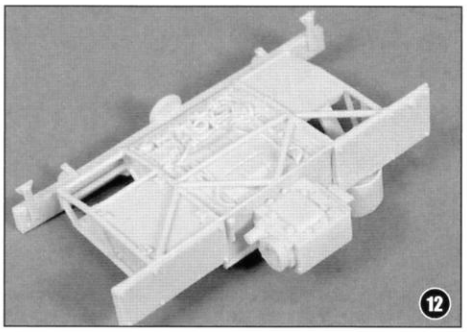
Starting with the truck kit, you get a very large and rather flimsy box. When you open it you find the box is only about half full (or maybe half empty). The model is molded in a very dark green plastic. There are five sprues with 164 parts for this kit, plus a number of spares for the other two MAN truck kits. There is also a clear sprue with six pieces and seven rubber tires. Overall, the molding looks very crisp and there is very little flash. The bad news is that there are a lot of very serious mold release marks all over the kit. These are too deep to sand out and all need filling. The kit tires are hollow rubber and the tread looks okay, but there are no raised letters on the sides. I am not sure this is a problem, since a number of my reference photos do not show any markings. The instructions consist of 20 pages with 62 steps and a decal sheet. The painting guide and decals include four different variants. There are several possible after market options for the tires, but none are that much of an improvement. I unfortunately had acquired the Real Model resin set, which are the Michelin type tires. This was possibly the worst option. I also got the Eduard photo-etch set for the 10-ton, since they do not make one for the 7-ton. This proved to be a wise investment. I was able to use the vast majority of the set and this is one of their newer sets, with a gazillion parts on four frets, a new instrument panel back in either film or photo paper, and a mask set for the windows. The only differences between the 7 and 10 ton are the bed length, a few doodads on the bed and the extra set of wheels. The cab is identical, which makes this photo-etch set especially useful. The instructions for the Eduard set are six pages of color illustrations.

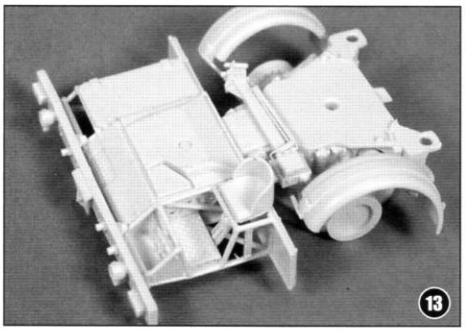
The Hobby Fan FH-70 kit

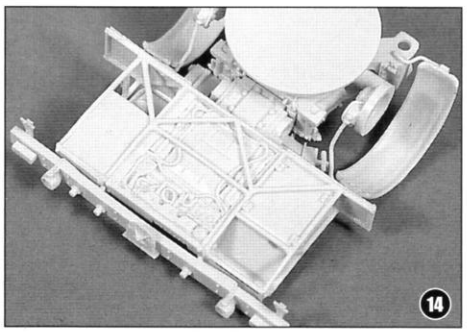
The Hobby Fan kit of the FH-70 is all resin, cast in their normal cream colored resin and consists of 71 parts. As usual, the casting is beautiful and very high quality with only a few small air bubbles that are easily filled. The instructions consist of four pages, with one dedicated to line drawings of all the parts, which are very easy to identify. Another feature I have not noticed before, but like, is the drawings of the parts include the pour plugs. These are shaded so that you can clearly see what to remove. The instructions say this kit is for both the "NOTO" (which I assume means NATO) and the JSDF versions. There is one item however, which makes it work only for the German army. This is the

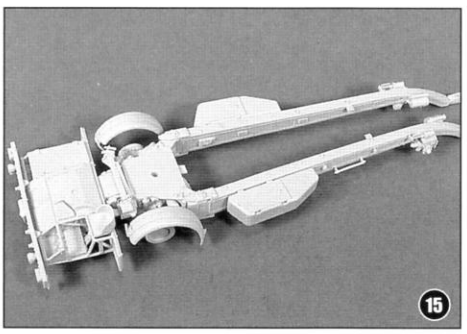


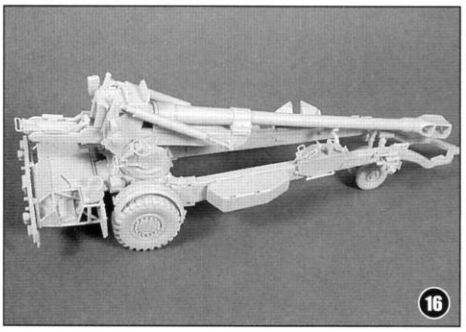


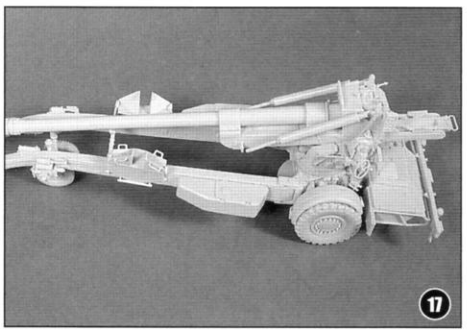












10. The base for the FH-70 gun. The fenders were definitely the most difficult parts to mount because of the weak supports. 11. The Auxiliary Power Unit (APU) was assembled separately. It includes a small driver station. I drilled out the headlights to accept PSP lenses. 12. The bottom of the APU has some very nice molding details. 13. The APU just butts up against the gun mount without anything to guide its placement. 14. The base plate is glued in the up position, but it still managed to break off several times during construction. 15. The trails were detailed, then glued in the travel position. The two end pieces were also supposed to be glued on without any locking system, so I drilled holes for brass wire to strengthen the joints. 16. The completed gun ready for painting. The barrel, breech assembly and the wheels were not attached yet. The barrel had to be broken off its mount to allow it to be depressed enough to fit into the travel lock. 17. A top down view to show all the part locations. The top of the travel lock was not glued on until the painting was complete.

bumper, which includes the shield with the white cross and this is unique to that Army. Of course, it can be removed if you are building another version. I do have a number of reference photographs of the JSDF version and I noticed that it is considerably different from this kit.

Let's start with the truck

I started by going through the instructions and highlighting any areas where I would potentially use photo-etch parts. The first couple of steps have you assembling the frame, which like most European model companies is assembled from a number of pieces rather than a single piece. The frame went together without any alignment problems, which kind of surprised me. Next, the two rear axles were assembled and mounted on the frame. Here is where the first problems arise. There is not a good, positive locking system and the parts just seem to float around. I am not even sure I got them all right. There are these large springs that go on the axles, then glue into pockets on the frame. The springs have knobs on the ends where they go into the pocket and my first guess was that they were supposed to fit into the half holes on the pockets. Wrong—do not do that. They are supposed to go in vertically, so they are flush with the frame side. The struts, #19, also just lay against the stops on the frames. The shock absorbers, #13, are another problem. They have a small pin where you glue them to the bottom of the axles, but where they go on top of the spring housing is left up to you. I believe the rule of thumb here is everything should be vertical, at least that is what I did. It seemed to have worked out okay. I left all the photo-etch parts on the frame off until later, since I did not want them to get knocked off.

The cab

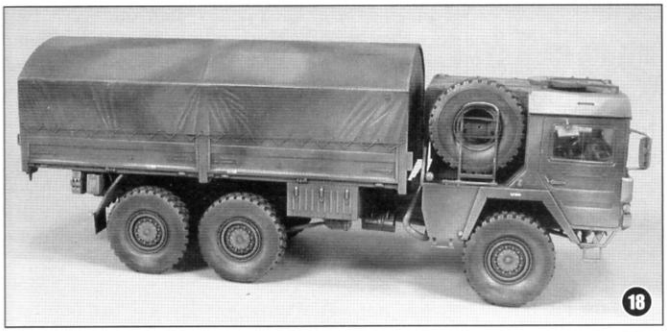
The next step is to build the cab, which requires painting in stages before the windows are installed. I first added all the photo-etch parts, and there are a lot, on the interior pieces. I then glued the bulkhead, #127, with the seats attached to the floor piece, #25. I added the seat belts and the little table in front of the seats. The instrument panel on the dashboard was scraped off and it was glued to the front piece. All the photo-etch details on the front panel were added, then it was glued onto the floor. The steering wheel has this neat little photo-etch turn indicator box and handle that was also added. The completed left cab side, #123, was then glued on and the rest of the rear bulkheads were added. I jumped to the cab roof and added the photo-etch grills and screen, and the machine gun ring and hatch. The interior parts of the cab were then sprayed with Tamiya XF-67 NATO green. I used Vallejo paints to paint the seats and steering wheel. The dashboard photo-etch piece was first painted black, then the photo paper dials was glued in and the whole assembly was glued to the dash. I then gave everything a wash of thin black oil and dry brushed with white and sap green oils. The right side of the cab was then glued on.

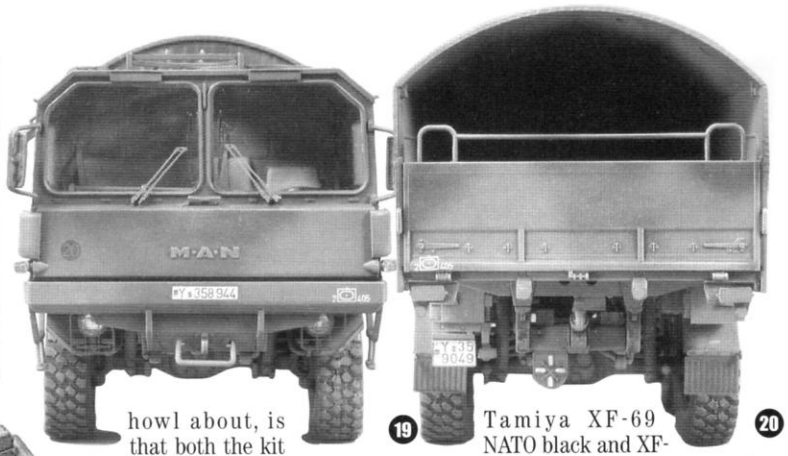
I then added the clear windshield and side pieces in. The mask film from the Eduard set was installed on all the windows on the outside while I could still hold the inside of the clear pieces (great idea, by the way). The top was then glued on, which only required some minor filling in the rear.

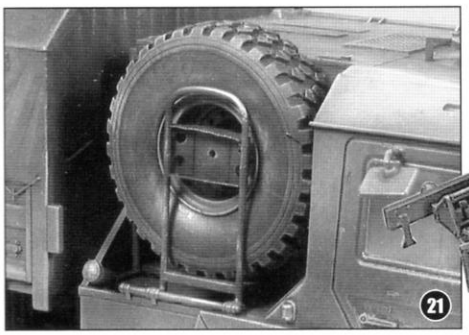
The bed

While the cab was drying, I jumped to the cargo bed, which was a piece of cake. The sides glued on without any problems. I sprayed the inside of the bed and top piece with more NATO green while I could get to it then glued the top on. All the frames were added along the bottom. I used Eduard parts for the spare gas cans and some of the boxes, but not all. These were then all glued on. Do a lot of test fitting on the frame while doing this to be sure there will be no conflicts. I also used the photo-etch rear mudguards, which are pretty neat. The only real problem I had here was the tow bar that stows below the bed. The instructions are a little vague as to its exact location and it can cause problems if not moved far enough towards the front. Since this truck was going to be towing the FH-70, I went ahead and cut a gap in the rear tow hook, #100, to accept the towing ring on the FH-70.

The cab was then glued on the frame and I also had a little difficulty here. For some reason, the cab did not sit right and I ended up cutting four little notches in the frame, making them a little longer and the cab then slipped in okay. The exhaust sys-







18. The truck was painted in the NATO tricolor camouflage pattern, using the new Tamiya paints. 19, 20. Here you can see the flat tires from Real Model. These were a "Real" disappointment. The small orange emergency lights are from a 1/87 scale ROCO set. 18. The headlights were painted silver on their backs then glued in. The screens in front of them are photo-etch, along with the windshield wipers. 21. The spare tire came from the rubber tires provided in the kit. 22. The gun was painted with the same Tamiya colors as the truck. 23. The license plate was added using a decal from the MAN kit. The PSP lenses are excellent and even include the lines, making them look more realistic. The gun was lightly sprayed with mud, then dry brushed with oils.

tem was then added and the cargo bed was glued on.

Finishing up, I added the photo-etch pieces to the spare tire support, #153, that I had left off until now. Be sure to read the instructions on this. Part #77 goes 6mm from the top. It does not replace the solid piece you cut out of the part exactly. If you do not move 77 up enough, it will not align with hub of the spare tire.

Tire blues

First, none of the aftermarket tires have raised lettering, which I found rather odd. But again, I am not sure they need to. I had the Real Model replacement spare tires but they are some of those flattened type tires. Now, I know aircraft modelers' love these flattened tires but not for Army vehicles. Guys—please! Even if they are not totally flat, they are definitely low on air. If a tire is properly inflated you should see very little. or no flattening unless the vehicle has an extremely heavy load or the tires have been deflated to go across country. So Real Models, get real. Another issue that I was not too worried about, but those nut counters out there will howl about, is that both the kit and the Real Model replacements have the wrong number of lug nuts. There are supposed to be 10, but you actually get too many this time with 12. Since the Real Models tires were provided for the project, I went ahead and used them, but I was very tempted to stay with the kit's tires. Another black mark against Real Model is that their set did not include the spare tire, so I had to use the kit tire here anyway. The MR Models set for this truck does have the correct number of lug nuts, but again, no raised lettering! I can not recommend them unless those two extra lug nuts drive you nuts.

Painting the truck

I first mounted the resin tires on toothpicks and sprayed them with Tamiya XF-1 flat black. I then sprayed the whole truck with more of the Tamiya XF-68 NATO green. A template was used to paint the tire rims, also with NATO green. I then went back and painted the camouflage pattern using Tamiya XF-69 NATO black and XF-68 NATO brown. The areas that were to receive decals were then sprayed with Tamiya clear gloss. I used the decals for a German 105mm Howitzer battery, since this was at least the correct unit symbol for an artillery battery, even if it was for the wrong size gun.

I then painted all the details. The exhaust system and muffler were painted Model Master rust and the pioneer tools underneath the rear first with Vallejo medium flesh, then wood grain. The metal parts of the tools were painted flat black, along with the bottom of the mud flaps. All the taillights and reflectors were then painted using clear red and orange. I sprayed the whole truck with a thinned down Polly Scale clear satin to even up the camouflage paint job and dull out the decal locations. I sprayed the lower half of the truck very lightly with Polly Scale mud. The masks over the windows were then removed. I then added the headlights (which I had painted silver on the rear side) into the mounts and added the photo-etch screens over them. Additionally, the photo-etch windshield wiper blades were glued on. I also used a couple of the ROCO emergency beacons on the two front orange lights.

The truck was then given a wash of black/burnt umber oil paint. I then dry brushed with white, sap green and burnt umber oils. The tires were dry brushed with a yellow ochre and white mixture, then glued onto the chassis.

Switching to the gun now!

This was one of the easiest resin kits I have ever built. This was primarily because there were not a lot of parts, but also because most of the fit was excellent and the instructions were more than adequate. You can build it either in the towed or the firing position, but you need to decide this early. I followed the suggested steps and started on the base and APU sections. The hardest part of building this kit is getting the fenders on. They are attached by some rather flimsy resin rods and the attachment points are very small. If it gets to be too much, you can just leave them off. A number of my reference shots showed missing fenders for some reason. If you are building the gun in the firing position, be aware that the fenders fold out when the gun is lowered. This is not shown in the instructions. Also,

the main axles for the tires need to be put in the correct position. This is one area that the instructions fall a little short. They do not show you how high to elevate the axles. They do give you a side drawing, from which you have to guess. The axles are also very loose, which makes it more difficult. I already decided to build mine in the towed position, since I was going to hook it to the MAN. I just estimated the correct height based on my reference photos. The APU section just butts up against the main base without a proper fitting guide. I did drill out the two headlights on the front bumper to accept some PSP lenses after painting. I also left the tires off until after painting.

The next two steps have you assemble the trails, but be careful since parts 9 L and R are shown correct in the instructions. However, the parts have an L and R scribed on the back that are both backwards. The tow pieces, 12 and 13, are supposed to just butt up against the trails, but since I knew they would not hold, I drilled holes and put thin brass wire in for better support.

The barrel and cradle are next and you have to glue the gun into the cradle since the breech will not slip through the cradle. I did drill out the huge muzzle brake so I would have a hole for the barrel. If you are building your gun in the firing position, go ahead and mount the gun and cradle into the mount. If you are building it like I did, in the towed position, don't mount it yet. The problem I found was that the gun does not depress enough. I had to break the gun out of the mount to fix it. You get two sets of screws for the elevation tubes. Actually, the tubes, #27, get one set of the elevation screws for the firing position. You get an extra set of screws for the towing position, but they are not the right length. I ended up cutting 6mm off of both #45's to get them to fit. To get the tube in the right position, I went ahead and glued the trails together and then glued on the travel lock, #28. This gave me the exact position I needed for the gun tube. I glued the gun mount onto the base, but left the tube off until after painting.

Painting the gun

After washing the gun I painted the tires with Tamiya XF-1 flat black. I then sprayed the whole gun with the same Tamiya colors I used on the MAN. The seats were painted with Vallejo khaki and the hand wheels and a few other items were painted black. The turn indicators on the front of the APU were painted yellow and red, and the triangles that hang down were painted red. The whole gun was then given a light coat of Polly Scale clear satin. There were no decals furnished with the kit, but I do know that the German Army gave these guys license plates. I guess this was because they had headlights and could be driven around. Anyway, I added a small license plate mount and used one the spare license plate decals from the MAN kit.

I also sprayed the lower portions of the gun very lightly with Polly Scale mud. A wash of black/burnt umber oil paint was then applied. I added the two headlights from PSP Models White headlight optics. These little guys are very hard to find, but they are great. They are much better than the MV lenses, since they have the vertical lines inscribed in them, which makes them look much more realistic. I used the 3mm diameter ones, which fit perfectly.

My thoughts now

The Revell kit was very easy to assemble, with only a few problem areas in the suspension. But it is better than most other wheeled kits I have built, except Tamiya. The Eduard photo-etch set is a must if you want to add any detail. I would recommend staying with the kit's tires since neither the Real Models nor MR Model tires are a great improvement. In my opinion, having the correct number of nuts on the MR tires is not worth the price.

The Hobby Fan model was a breeze to build and I actually constructed it in only a few hours. Painting actually took longer than assembly. The kit is massive for a towed gun and I was very impressed with how detailed it is and how well it goes together. Except for the astronomical price, this is a great kit.

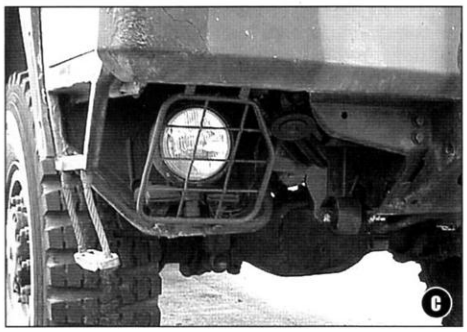
—Jim Hensley

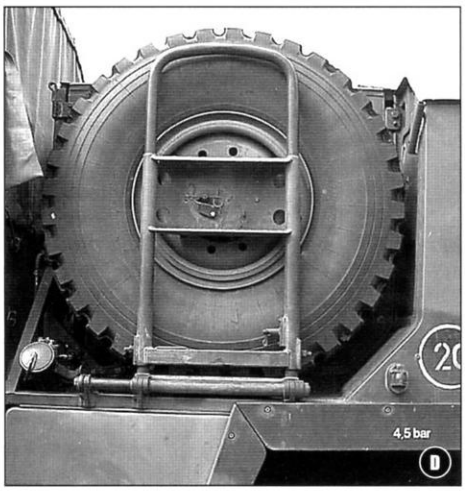
MMiR RECCE

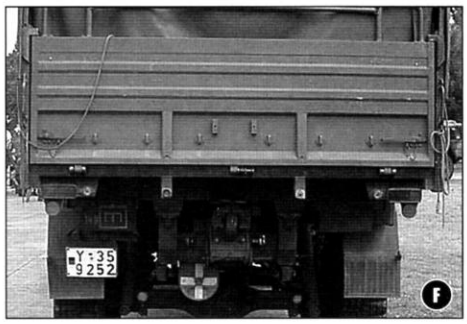
Revell MAN 7-ton. Kit number 03043-0389 Suggested retail price $41.25.
Eduard MAN 10-ton. Kit number 35445. Suggested retail price $22.99. Kit graciously provided by the manufacturer.
Real Model Wheels for MAN Revell Kit No 3043. Kit number RMA 35064. Suggested retail price $15.00.
Hobby Fan FH-70 155mm Howitzer. Kit number #030. Suggested retail price $100.00.

References

German Army '94, Ground Power No. 5, October 1994, Delta Publishing Co., Ltd. Tokyo, Japan. This book has a few good photos of the FH-70 in German service.
Foss, Christopher & Gander, Terry. *Jane's Military Vehicles And Ground Support Equipment*, 8th Edition, Jane's Publishing Company Ltd., London, UK 1987. Background on MAN
Gurk, Carsten; Hartwig, Thomas; and Plag, Frank. *www.Panzer-Modell.de http://www.panzer-modell.de/* A great website which had reference photos of a number of both WWII and modern German Army vehicles. They also sell a set of CD's that have photos of many of the Modern German Army vehicles. Highly Recommended. Carsten was also kind enough to furnish the real deal photos for this article.







These photos were provided by a friend in Germany, Carsten Gurk of www.panzer-modell.de/. He sells these and many others on CDs. They are a good investment if you are interested in any modern German Army equipment. A, B. Two overall shots showing the unusually high ground clearance that the Germans design into all their army vehicles. I guess there are some lessons to be learned from Russian mud... C. A good view of the headlights, which are well protected, but kind of hidden under the front bumper. D. Details of the spare tire mount. E. A close-up view of the front windshield and wipers. F. Details of the tailgate and rear end.

Detailing the Cat

BUILDING THE AFV CLUB M-18 HELLCAT TANK DESTROYER

The M-18 was a very effective weapon because of two things. It was very fast (we are talking 50 miles an hour) and it had a big gun for its time, a 76mm cannon. What it did not have much of was armor. This gave the crew plenty of incentive to shoot and scoot. The Hellcat, as it was called, and its predecessors went through a number of developmental changes before a finished light tank destroyer came out of the pipeline.

The first attempts at a light tank destroyer were made as early as 1937 when a 37mm M1 automatic anti-aircraft gun was mounted on a M2A1 light tank chassis. Actually, this was not designed to be a tank destroyer, rather it was to target anti-tank guns. This proved a failure for a number of reasons, including that the gun continually jammed. Another attempt was made after the European war started and there was new interest in defeating German armor. Stopgap was the phrase of the day and a great example of this was first the 37mm, and later the 57mm gun being mounted on a M9 light airborne tank chassis. This thing was called the T-49. The General Motors Buick Division produced two T-49 prototype vehicles. They were sent to Aberdeen for testing in July 1942. This was when it was decided the 75mm gun might be better, so the second prototype was given this bigger gun and its name was changed to the T-67 when it was returned to Aberdeen in November. This second vehicle also featured an open topped turret and new frontal armor.

Late in the testing the second prototype was refitted with yet another gun, the 76mm M1 cannon. The result of these tests was to cancel the T-67 and go with the modified one with the 76mm cannon. This had the new designator of T-70. An order for six more prototypes of the T-70 were ordered and tested. The engine was changed from the original twin Buick engines to a Continental R-975-C1 radial engine. Many other changes in the suspension and placement of the main gun were made, but overall it was decided that this was going to be a winner. Production was ordered in July 1943 and ran until October 1944 with 2,507 M-18 Hellcats being produced.

The M-18 had a crew of five, with a driver and assistant in front. In the turret, the loader sat on the right and the gunner on the left. The track commander was positioned directly behind the gunner. The basic load of 76mm ammunition was 45 rounds stowed in various places in the chassis and nine ready rounds in the turret. As mentioned the armor protect was not great with only one inch on the front glacis plate and one-half inch on the sides.

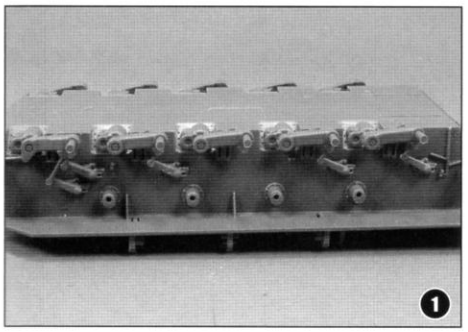
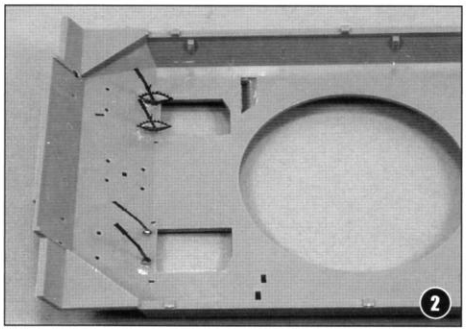
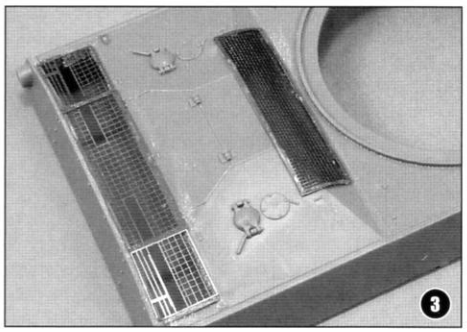
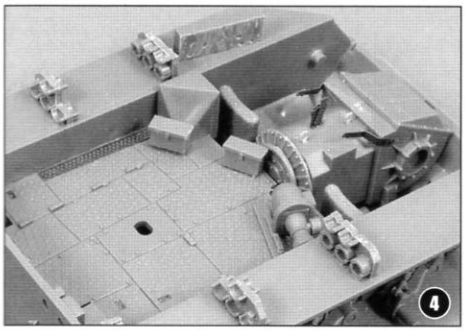
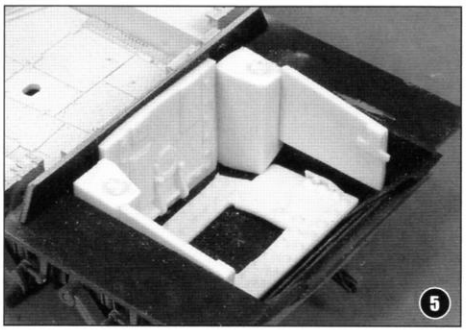
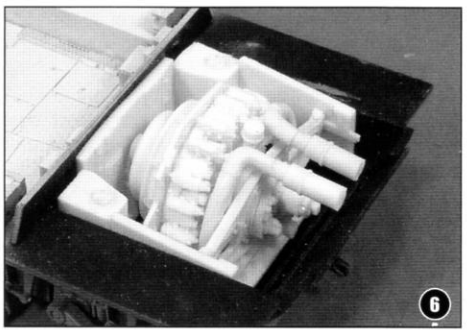
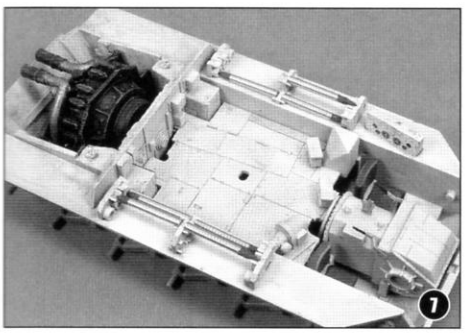
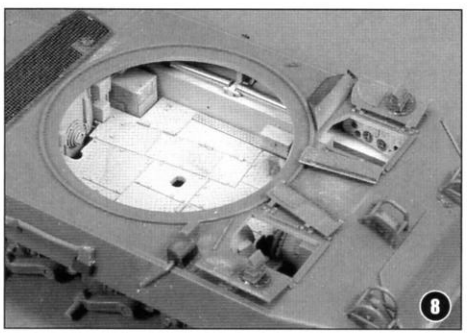
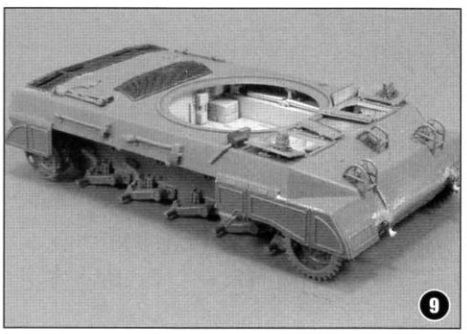
The Hellcat was deployed to the Tank Destroyer battalions, along with the M-10 and M-36 tank destroyers. They were at first used in Normandy, but the tactical doctrine of how to use tank destroyers had changed by then and instead of being used in mass formations against enemy armor, they were parceled out and used in more of a medium tank role. By this time the Germans did not normally concentrate their armor because the "flyboys" gave them such a bad time when they did. The M-18 also went on to see service in the Pacific, but without overhead armor it was particularly vulnerable to the Japanese style of attacking. Hellcats continued to serve with a number of other countries and some were given to the Yugoslavian government in the post war years and saw service until just a few years ago.

The kit

The AFV kit is a beauty and it consists of approximately 295 olive drab plastic parts, a rather poor brass gun barrel, a spring for the toy minded, rubber band tracks and a decal sheet. The molding is very good, as usual, and the 20-page instruction booklet is quite adequate. I did add an Eduard photo-etch set and turned brass ammunition, also from AFV Club. I replaced the kit barrel with a Mike Dobiesz barrel and lastly, added Friulmodellismo tracks.

Starting underneath

After checking the photo-etch instructions

1. The basic suspension was rather loose, so careful alignment is needed before it dries. 2. The Eduard set provided some lateral controls, which the kit neglected. 3. The rear deck areas were removed to install the Eduard photo-etch parts. The problem is you really need an engine if you decide to make this move. 4. The interior is rather basic, but good enough with the help of Eduard. 5. The Tank Workshop engine compartment was made for a Sherman, so some serious cutting was needed to get it into this smaller compartment. 6. Here is the completed engine before painting. It also required some adjusting to get it into the compartment and not all of the pieces were used. 7. The completed interior with the AFV Club ammunition mounted. Most of the shells are a little big for the racks. This is a little strange considering these shells were made for the M18 and the M-10. 8. The top was added, then all the tools were mounted using Eduard parts. I decided to leave the driver and radio operator's hatches open so you could see more of the interior. 9. The front and rear side skirts were added, but you also have to mount the front and rear idler and drive sprockets, plus the forward return roller, before gluing the skirts on.

against the kit instructions, I started by assembling the suspension. The first problem, although minor, is that you have to redrill the mounting holes for the front and rear axles just a little. Next, I assembled the front drive sprocket mounts. This is rather complicated because of the dual shock absorbers. An extra set of hands would have been a great help here. The rear idler mount was much easier. The dampeners, C18, were tight, but if you put a little liquid cement in them they can be pressed into the hull. The rest of the axles went in with a little work. Some went in easily, but some required a little enlarging of their holes (and I think we all know how painful that can be). You do need to check the alignment of the axles, since the mounts are weak and they can be mounted crooked.

I assembled the roadwheels, the idler and drive sprockets using liquid cement. The idlers and drive sprockets need to be lined up carefully so the lighting holes are correct. Once the glue had dried, I sanded all the rims down to rough them up. I did not glue these wheels on yet, since I wanted to paint them separately.

Interior decoration

Using what Eduard pieces I could, I started the interior next. They at least furnish the overhead controls for the driver and assistant driver, although they are flat "2-D" parts. I sanded the instrument panel flat, so that I could add the photo-etch replacement part later. If you are really into useless work, you can rebuild the bottom of the driver's and assistant driver's seats using photo-etch parts. I chose not to, since even with the hull top off, you cannot see them.

Now for the rest of the hull top. Eduard gives you some really nice photo-etch screens for the engine. I debated using these for a long time. The main reason is that they are very easy to see through and without an engine, I was worried they would look funny. I finally went ahead and cut out the three areas, including the one behind the driver and installed the screens. Well, the long and the short of it is, do not use these screens unless you have an engine to stick in. So, after admiring my handy work, I went out and found a Tank Workshop M4 radial engine with a compartment to fill this hole. The biggest problem, of course, is that this kit is made for the spacious Sherman hull. I had to cut down the engine compartment sides and even a few cylinders off the bottom of the engine during assembly. The engine was not glued in until I had painted both it and the engine compartment.

I then spray painted the forward crew and engine compartment area with Tamiya XF-2 flat white. The engine was painted Tamiya X-1 gloss black. It was then painted silver in places and glued into the engine compartment. The Eduard set includes a new driver's instrument panel with a film backing. The film was painted white on the back so the dials would show through, glued onto the instrument panel and this was then glued onto the kit instrument panel. The forward crew compartment was given a light wash of black oil, while the engine compartment was washed in a mixture of black and burnt umber oils. After some light dry brushing to bring out the details, a few of the rounds that could be seen from the open turret were glued in. I did not waste any time putting rounds close to the hull, since these cannot be seen once the hull top is on.

Moving outside

The hull top was then glued onto the bottom. The fit was not great, partially because I had put an engine in. It did require some search filling and sanding to get a good fit. I then proceeded to add all

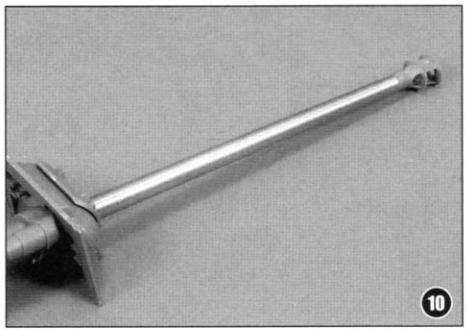
the upper hull details using Eduard photo-etch straps and mounts, and the kit tools. I decided I wanted to show off as much of the interior as I could, so I left the two forward hatches open.

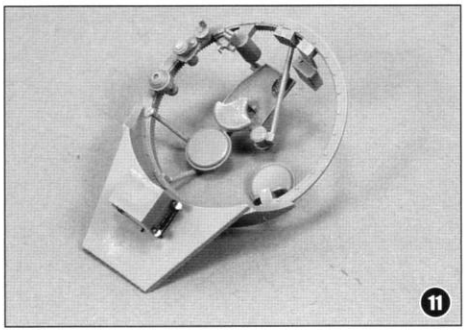
The turret was started next. I was not really happy with the turned brass barrel that came with the kit. I do not know if my kit was the problem, or what, but the brass had heavy cross scarring on it. I happened to have purchased a turned brass barrel from Mike Dobiesz years ago and decided to try it. The fit was great and the only thing I had to do was cut off the muzzle brake end and drill out the hole to allow it to fit over the turned barrel's end. I was not about to put the spring in the breech. Get real! I just put the plug in and glued the barrel on top of it. The breech was assembled without any problems. I then moved to the bottom of the turret and added all the interior seats and different motors around the turret ring. Eduard provides a couple of doo-dads that go around the inside of the turret and these were added, as well. I then glued the turret top to the bottom and filled in around the base.

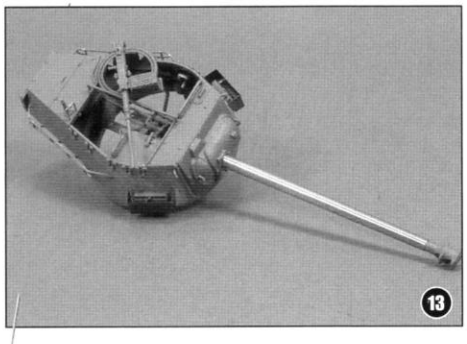
There are two sets of very large locating slits on the sides of the turret (for two baskets). The problem is that even the kit parts do not cover them. If you use the Eduard replacement parts, they still really show. So, I filled them in with Tamiya putty and then added all the small clasps and bars that go around the turret. This included the two long racks, which are a pain. They do not fit well and were hard to clean up because of some bad casting and broken parts.

The .50 cal machine gun was assembled and glued to the ring mount. I have to admit this is one of the best, if not the best, .50 cal heavy machine gun I have ever seen. Although Eduard provides parts for it, you really don't need to waste time on them, as they do not improve the part.

The Friulmodellismo track was assembled per instructions without any difficulty, although a number of the links did need to be redrilled. Another thing to watch for is that there is very little clearance for the forward drive sprocket and its fender. I had to move them back to allow the track to pass through. After I had assembled and test fit the tracks, I glued on the forward and rear side skirts. You have to put the idler and drive sprockets on and glue the front return rollers on now, because after the skirts are on, you do not have access. I did leave all the roadwheels off so I could paint them separately.







10. I substituted a Mike Dobiesz barrel for the kit one, which I found had a very rough finish. 11. The turret basket was very full and I added a few Eduard pieces to make it more cluttered. 12. Some extra goodies not included in the kit were added to the turret interior before gluing it together. 13. The completed turret. The large holes in the sides were filled before adding the boxes with the removable windshield pieces.

OD anyone?

A base coat of Tamiya XF-1 flat black followed the usual wash in warm soapy water. I then lightly sprayed the whole tank with Tamiya XF-62 olive drab. The various tool handles were painted first with Vallejo medium flesh, then wood stain. The tools were painted with flat black and the spare tracks on the back of the turret were painted rust. All the areas to receive decals were sprayed with Tamiya clear gloss. The decals were then put on using a Micro Sol and Micro Set combination. The kit decals are very good. I used the stars with the rings and did not have to trim them, since even the areas between the star and ring did not have carrier film.

The roadwheels and return rollers were then glued on and a wash of black oil was applied. The tracks were treated by first soaking them in vinegar for about 24 hours, then five minutes in Blacken-It. I then gave them a wash of 50/50 black/burnt umber oils and finally scrubbed them with a kitchen-scouring pad. They were then assembled on the roadwheels. The biggest problem with this kit, and I was warned about this, is that there really is not much clearance for the track, particularly around

the forward drive sprockets and return rollers and it took some forcing to get the tracks on.

Last, I dry brushed the model with a mixture of oils, and added a piano wire antenna and tow cable made from the string supplied with the kit. I noticed in many reference photos that the M-18 seemed to only carry a single and very long tow cable. I also added two MV lenses for the headlights.

Results

This was an easy kit to build unless you try to add a lot of after-market items. I think the results were worth the extra effort. The interior was great, but the brass rounds did not fit too well in the internal racks. This a is a little odd since AFV Club makes them for this kit. The clearance for the track was the biggest problem. The decals were great and instructions very complete.

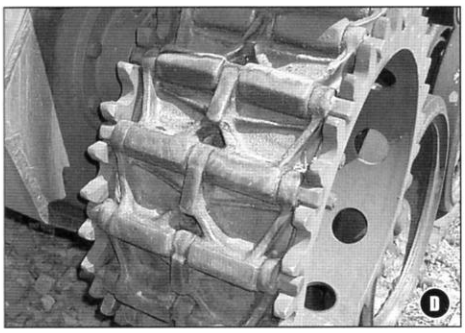
—Ken Dugan

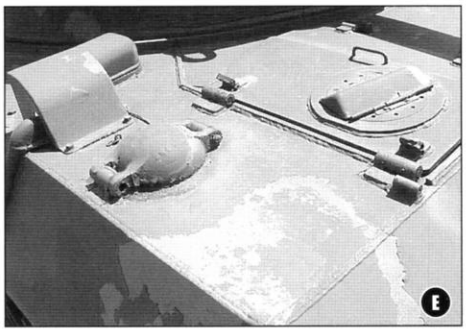
MMiR RECCE

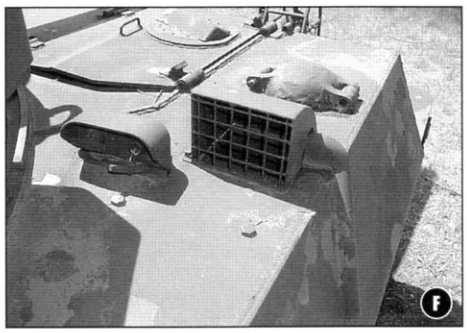
AFV Club M-18 Hellcat. Kit number AFV35015 Suggested retail price $32.00.
AFV Club 76mm/3" Tank Ammunition. Kit number AFV35018 Suggested retail price $14.98.
Eduard M-18 Hellcat. Kit number 35281 Suggested retail price $19.99. Kit graciously provided by the manufacturer.
Friulmodellismo M-18 Hellcat tracks. Kit number ATL-40. Suggested retail price $32.00. Kit graciously provided by Friulmodellismo's U.S. import agent, Chesapeake Model Designs.
The Tank Workshop M4 Radial Engine and Engine Compartment. Kit number 035.
Dobiesz Brass Barrels, Barrel for M-18.

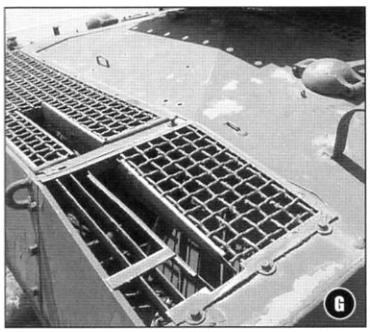
References

Walk Around US Tank Destroyers by Jim Mesko, Squadron/Signal Publications Armor Walk Around #3, Carrollton, TX 2003, ISBN: 0-89747-456-2.
U.S. Tank Destroyers in Action by Jim Mesko, Squadron/Signal Publications Armor Number 36, Carrollton, TX 1998. ISBN: 0-89747-385-X.
Allied-Axis, the Photo Journal of the Second World War, Issue 4, M18 Hellcat Tank Destroyer, Ampersand Publishing Co., Inc, 2001. Contains an excellent 25-page article with combat photos and contemporary walk-around shots.

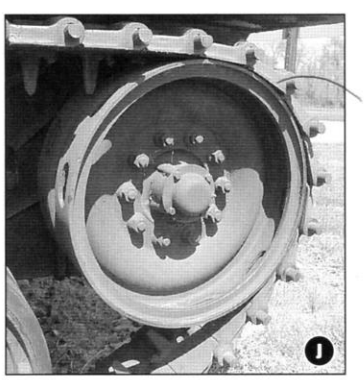


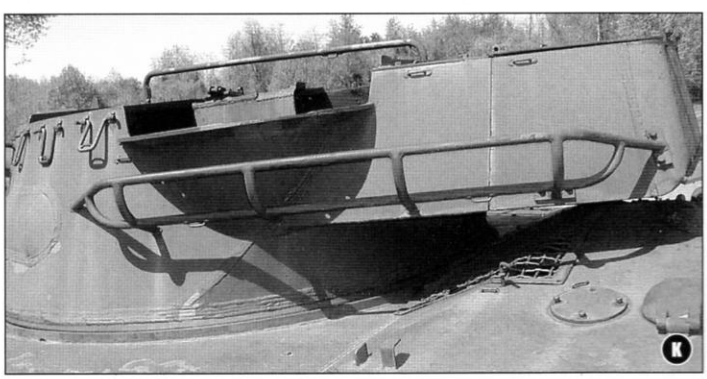






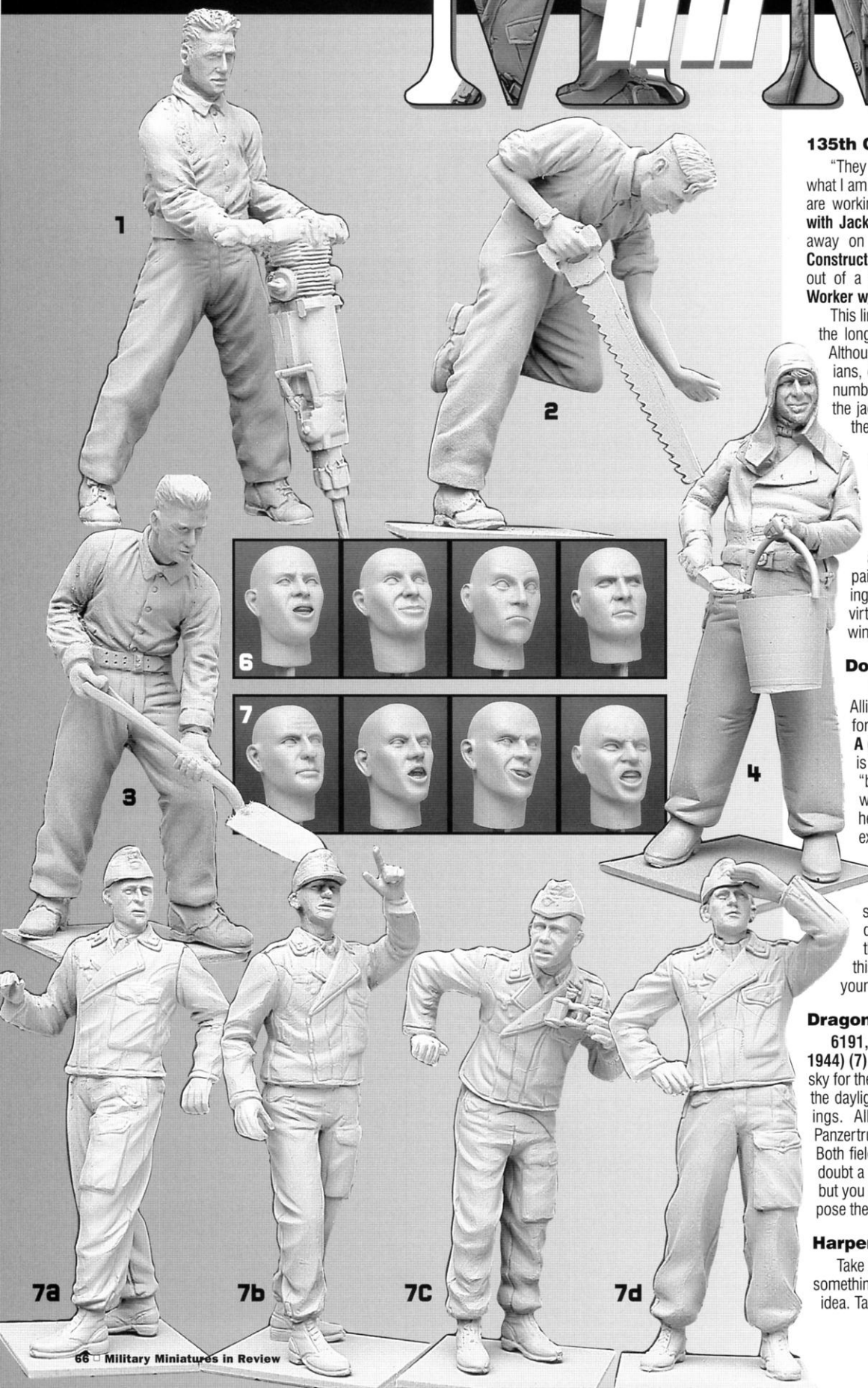
A. This M-18 was sitting on the Mile of Tanks at the entrance to Aberdeen until a couple of years ago when it, along with all the others was removed. B. A close-up of the turret, which, despite a rather bad need of paint, looks in pretty good shape. C. Even the headlight and horn guards are still in place. D. The track for the M-18 was the T-69 steel track. E, F. The assistant driver/radio operator's hatch and surrounding details. G. The engine grill was wide open giving a good view of the engine. H. Again the amount of original equipment is surprising. Even the mounts for the shovel are still on the rear deck. I, J. The front mounted drive sprocket and the rear idler can be seen in these photos. K. The MP's were watching me when I was taking the pictures so I could not climb on top but at least you can see the bar that goes across the turret.





A Peek at What's New on the Figure Front!

MiniMen



135th Construction Battalion

"They call me the working man… I guess that's what I am." Geddy would sure like these guys, cuz they are workin' their asses off. First up is **0068, Worker with Jack Hammer (1)**, one gloved individual wailing away on the concrete. Check out the hair! **0070, Construction Worker w/Hand Saw (2)**, is taking a bite out of a chunk of wood, while **0071, Construction Worker w/Shovel (3)**, digs himself into some trouble.

This line of figures is really starting to represent well the long over looked field of construction workers. Although they are sculpted to look more like civilians, one could easily paint or modify them in any number of ways to suit their needs. And, of course, the jackhammer and other tools could be used by themselves.

Corpus

35007, APC Crewman in winter dress (4). This crewman wears the reversible winter hood and trousers, black double-breasted panzer tunic and black leather boots. He is armed with the M43 bucket and late model paint brush. The box top shows him white washing a helmet, but the uses for this figure are virtually endless when incorporating him into a winter scene. More please!

Dog Tag

Dog Tag, the on going series from Miniature Alliance has provided two new accessory sets for your enjoyment. **1201, Character Heads Set A (5)** and **1202, Character Heads Set B (6)**. As is the custom with such sets, both provide "baldies" so that you can scalp them just the way you want. Each of the sets contains four heads and they each offer a real variety of expressions. We have noticed that the series tend to run truer to 1/15th scale, so be careful in choosing which figure to place them on. For instance, the S&T line is sculpted to 1/16th scale and there is a real difference when comparing them. However, the sculpting is first rate and if you are into this scale, these guys should definitely be in your collection.

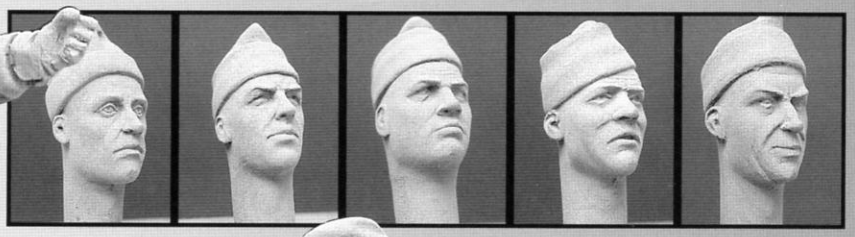
Dragon

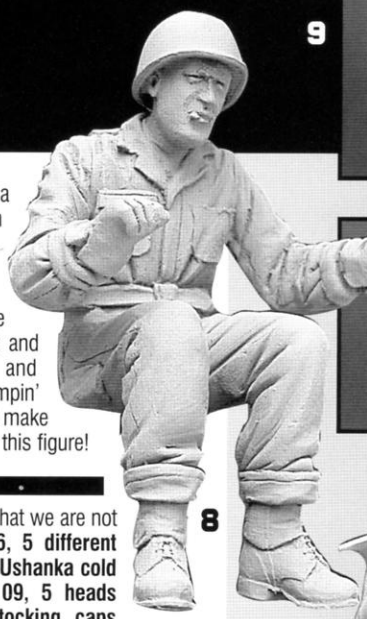
6191, "Achtung-Jabo!" Panzer Crew (France 1944) (7). This set represents a tank crew looking to the sky for the dreaded "Jabo." This was the case during all the daylight hours in the aftermath of the D-Day landings. All four cats wear the reed green denim Panzertruppen protection suit with black leather boots. Both field caps and forage caps are worn. This is no doubt a nifty accessory for your new DML Panther A, but you also get parts of the Panther turret in which to pose the tank commander in case you don't have one!

Harper Castings/Figure Pharmacy

Take one figure and call me in the morning? Well, something like that. Harper Castings has a novel new idea. Take a resin figure and stick it into an empty pill

bottle. And, the label looks like a prescription. Get it? The first in the series is **35001, U.S. Bulldozer driver (8)**, a little company for your new VLS bulldozer. The driver wears the second pattern HBT work suit and work gloves, with leggings and brown leather boots. A chompin' cigar completes the effect. Just make sure to drink a lot of water with this figure!





Hornet

The latest Hornet products that we are not worthy to review are **HRH 06, 5 different heads with Soviet style WW2 Ushanka cold weather caps (9)** and **HBH 09, 5 heads wearing Commando style stocking caps WW2 (10)**. The Russian heads would find immediate use considering the plethora of new T-34 kits and accessories coming out. One only has to look at the photos to realize that these little beauties would transform any figure that they are used on.

The commando theme may at first seem odd, but the conversion possibilities are vast. This headwear also remained popular into the Korean War. We've seen at least one great photo of a load of Canadian infantry riding on an M4A3E8 and they're all wearing that hat. And, the best part is that if you don't like the caps, lop them off and use the heads with the headgear of your choice. The faces are all new!

MK35

MK35, a small French manufacturer, has always specialized in civilian figures and this is the theme this time around. A few of the names have lost something in the translation, so we'll help out where necessary. First up is **F139, Religious Cornet with Bicycle (11)**. This is actually a nun pushing a bicycle. She's wearing the really big habit on her head, somewhat like the "Flying Nun," if you recall that old TV show. It's a pretty cool idea and her bike is especially well rendered.

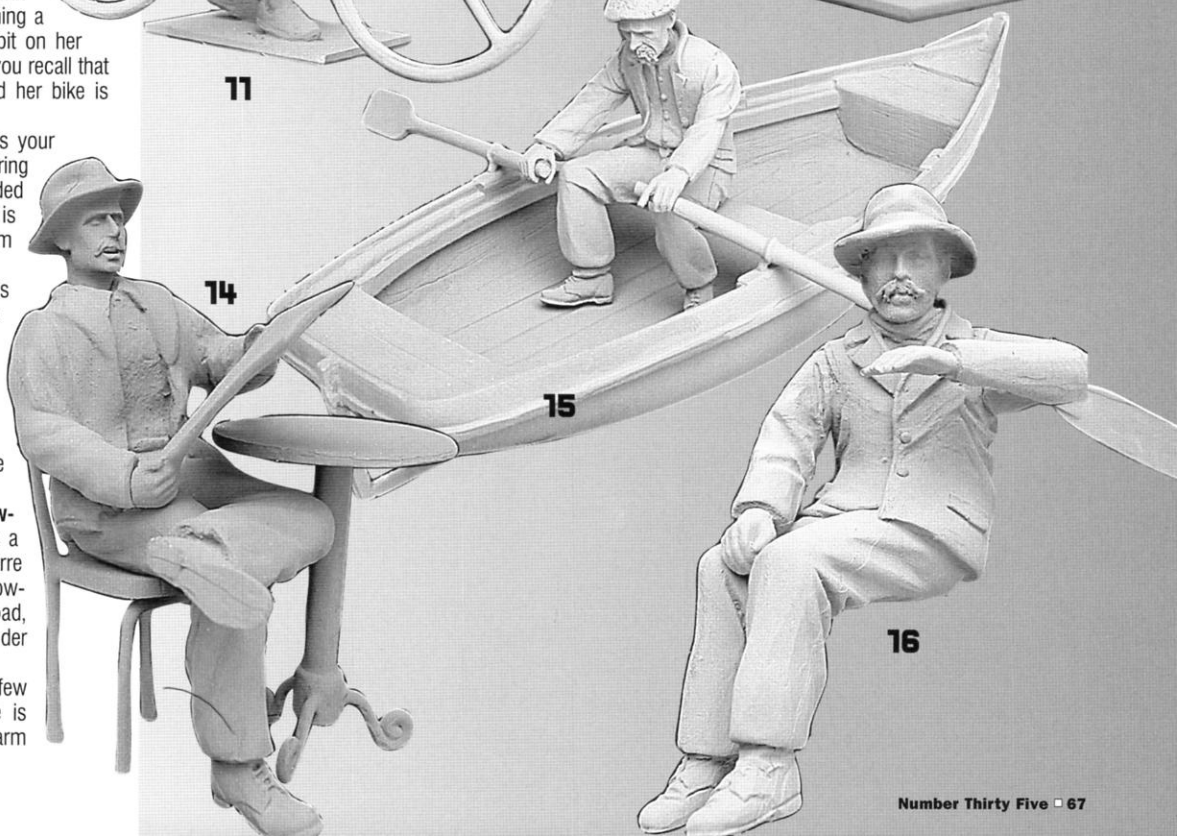
F144, Civilian Mechanic N.2 (12), is your basic screwdriver toting civilian dude wearing a denim work coat. The artwork provided shows him working on a bicycle, but none is provided in the kit. You'll have to steal it from the nun.

F145, Grandmother with hat (13), is the standard "'lil ol' lady" model with a flower basket, shawl and cane. Could that be HER bicycle?

F146, Civilian seated reading newspaper (14), is simply hanging out enjoying the morning news. He is complete with a Café table, chair and, of course, the daily news.

A053/F148, Civilian Rower in his rowboat (15), is more than just a figure; it's a boat kit, too! Not only do you get Pierre pulling on the oars, you get a complete rowboat cleanly cast in resin. It's not too bad, either. We're thinking about sticking him under that big bridge kit we've been eyeing…

F149, Civilian Carter (16), took us a few minutes to figure out. But, you see he is designed to drive the beautiful MK35 farm



cart. He drives a cart, therefore he's a car-ter. Get it? Hey, maybe he's talking to that old lady?

Platoon

Platoon is a new joint venture between two figure powerhouses, Pegaso and Warriors. The line appears to be generally split between Bill Chillstrom of Warriors and Andrea Jula from Pegaso.

First up, 001, German Grenadier, Germany 1944-45 (17) is a Jula piece, as are the next three. This stern looking fellow wears model 1944 tunic over a sweater with trousers. His anklets are worn over leather boots. The equipment is made up of black leather belt and canvas braces with gas mask, gas cape, bread bag, canteen, entrenching tool with bayonet, and MP44 ammo pouches.

002, Panzergrenadier, Italy-North Africa 1943-44 (18) is an interesting choice of subjects. He's decked out in the M1940 light tropical shirt and M1941 field gray trousers worn with anklets over black leather ankle boots. The much coveted dust goggles are worn on the helmet. His kit consists of the M1940 canvas tropical belt and Y straps with black leather ammo pouches, bread bag, canteen, mess tin and entrenching tool. A canvas pouch for rifle grenades is slung over his shoulder.

003, German Panzer Aufklärung, Italy 1944-45 (19) strikes a real interesting pose. He's crouched behind a low brick wall and is waiting to say hello with his Luger. He wears the M1942 reed green panzer work jacket and Italian camo trousers with thigh pockets. The M1943 field cap is worn, as are black leather ankle boots. A black leather belt and holster for Luger round him out.

004, German Grenadier, Germany 1943-44 (20) is up next and our stick grenade throwing friend wears a camo smock fitted with a hood over the field gray tunic with trousers and black leather jack boots. Standard issue gear is worn that includes a black leather belt and braces, bread bag, canteen, gas mask and entrenching tool. Two additional stick grenades and a K98 are also carried. Look out!

OK, now it's back to Bill Chillstrom for **005, U.S. Assault Team N.1 Europe, 1944-45 (21); 006, G.I.s Advancing N.2 Europe, 1944-45 (22); 007, G.I.s Advancing N.1 Europe, 1944-45 (23)** and **008, U.S. Assault Team N.2 Europe, 1944-45 (24)**. Lets take a look at all four of these GI's together, shall we? All carry the M1 Garand rifle and are topped with steel pots. The uniform clothing represented is two wear the OD field jacket and two wear the M1943 field jacket. All wear the HBT trousers. Footwear is two pairs of the M1943 combat boots and two pairs of canvas leggings worn over brown leather boots. All wear the standard issue webbing with ammo pouches for the M1 with canteens. They are clearly meant to go together and would lend a lot of action to any scene.

Resin Nation

Resin Nation now encompasses the Corpus label (we think) and the following should be considered a continuation of that series (we hope). **RE35-46, German Tankers (Route Plan) (25)** contains two wild dudes that both wear the short black panzer wrap and trousers. One wears his tunic with the collar fastened, while the other wears his collar opened and worn over a sweater with an M1943 field cap. Both wear black leather ankle boots.

Royal

Royal doesn't release a lot of figures, but when they do they are always gems. One such gem is **294, Sleeping SS Grenadier WWII (26)**. This sleeping trooper wears a camo smock over the field gray uniform with black leather boots. The extras are really nicely done. You get a spare tire with the individual's gear strapped on, plus gear for the front of the sidecar and another piece of gear with a bino case and stick grenade. All in all, a very cool set up.

S&T

We don't venture into the magical big scale realm very often, but when we do, we try to make it special. And special it is, with two fantastic sculptures from S&T. The first is **16020, SS-Sturmmann Ambush at Poteau 1944 (27)**. This highly animated figure is based on a famous photo and is brimming with detail. The figure wears an SS pattern camouflage jacket worn over the field gray tunic and trousers. A sweater is worn underneath the tunic. The black leather jackboots are folded down at the top, a very nifty touch, and gray knitted wool gloves are worn. The equipment is made up of a black leather belt and braces, MP40 ammo pouches, bread bag, canteen, gas mask with gas cape, rolled Zeltbahn and an entrenching tool. A extra nice touch is the MP40 magazine tucked into the belt, as seen in the famous photo.

Next up is **16021, Gefreiter, Luftwaffen Field Division Anzio-Nettuno 1944 (28)**. This Gefreiter has the Luftwaffe splinter pattern camouflage smock worn open over a standard Fliegerbluse and blue-gray trousers. A scarf is also worn around the neck. His canvas anklets are worn over brown leather ankle boots. Equipment includes a black leather belt and the Kar 98 ammo pouches can clearly be seen with the smock open—cool! Slung over his shoulder is a battle rucksack, detail not often seen on a figure. Two weapons are carried; a slung Kar 98 along with an MP44 held in his right hand. The smock pockets are crammed with stick grenades and magazines for the MP44. This guy's been around, too. He left hand is realistically bandaged and he even sports a sticking plaster (Band-Aid) on his face. What a show!

Tamiya

Tamiya strikes again within their big scale figure line. New is **36307, WWII Wehrmacht**

Infantryman (On Maneuver) (29). This styrene senior corporal wears the standard model 1940 field jacket and trousers with black leather boots. His equipment is the standard issue, plus the MG maintenance kit for his MG42. A choice of heads is provided, allowing the helmet to be worn on or off, for a more casual look. The iron cross and wound badge are molded separately for a really nice look standing off the uniform. The decal sheet has all the sewn-on goodies very nicely represented, such as a cuff title and shoulder boards for GD.

There is major conversion potential here and they are definitely whetting our appetite for at least one (or two) more in this vein!

Tristar

Tristar continues its series of specialty styrene figure sets. These are becoming quite elaborate and well received, as they up the ante to compete with the more expensive resin sets. The newest set as we go to press is **007, German Self-Propelled Gun Crew Set Vol. 2 (30)**. This is one of the most populous sets yet, with no less than five full figures and a half figure in the box, along with a turned brass 88mm round. The set is clearly aimed squarely at the new DML Nashorn, but it seems that it would be easy to adapt to a variety of other vehicles. A couple different uniforms are present in this set. Three of our dudes are clothed in the two piece Panzertruppen protection suit in reed green. Two wear the M1940 double-breasted field gray tunic and M1944 trousers. Lastly, the loader wears just a field gray tunic and trousers. All wear black leather ankle boots and leather belts. Both field caps and forage caps are worn up top, and two of the figures are provided with alternate heads and head gear. A nice variety of shirts, scarves and sweaters are worn underneath the uniforms to help create a very realistic look. All are designed with a specific task in mind inside the crew compartment, but our advice to the half figure at the front of the gun is: plug your ears!

Warriors

As always, there's a lot to see and do in Warriorsville. Our first contestant is **35499, NVA Regular (31)**. Only the basic needs of the NVA soldier are represented on this figure. He sports the basic olive uniform shirt, trousers and hat. The footwear is the ever-popular canvas plimsolls and web belt. An ammo pouch for the AK47 is worn across the chest.

35511, Legionnaire in Algeria (32), is certainly one you won't see everyday. This bad-ass lookin' German (maybe?) wears the standard French M51 pattern camouflage combat trousers and jacket and French made webbing. His weapon is the 7.5mm M1952 machine gun. Just for flare, a safari style hat and scarf is worn. C'est la gare!

35515, Wehrmacht Motorcycle Crew (33). These roughriders wear the field gray tunic and

trousers with black leather boots, black leather belts, braces and canteens. The goggles on the helmet of the driver are nicely done and both look like they are in a real big hurry!

35517, "Hit The Beach" Part #7 (34) continues this long running series of Marine Corps types out wrecking someone's beach. Part 7 contains an officer and his RTO. Both have camo-covered helmets, two piece dungarees and brown leather boots worn with leggings/gaiters/spats. To accessorize, they tote model 1936 pistol belts and suspenders, pistol holsters with ammo pouches, first aid pouches and canteens. Not about to take crap from anybody, the RTO carries the Model 1897 12-gauge shotgun with Model 1918 shotgun shell pouches. The radio is the SCR-300/BC-1000 man pack radio. Hello, hello?

35519, WWII Japanese Tank Commander (Cold Weather Uniform) (35) is definitely looking a little bit nippy. GET IT? NIPPY! HA! WOW! OK, sorry, we're better now. This chilly cat wears the two-piece winter tank suit made up of a fur-lined, collared jacket and over trousers. This is topped off with a leather and fur-lined crash helmet with earflaps and goggles. A set of fur-lined all-weather boots completes the toasty picture. A very unique way to display your next piece of Japanese armor.

35521, IDF M15A1 Shmira Crew (36) is another departure from the norm (read SS freakin'everything). It's a complete set of dudes to populate the Academy Shmira kit. All three wear the "Beged Horef" winter coveralls underneath OG protective rain smocks and "Hermoniot" fur-lined winter boots. All have on the standard Israeli infantry ballistic helmet.

35527, M1A1 Tank Crew Set #1 (37) and **35528, M1A1 Tank Crew Set #2 (38)** are here to give life to that new M1A2 in your closet. All four tankers wear the OD tanker's coveralls and three have the CVC helmet, while the other has a K pot. All four have dust goggles, which can be painted with different tints depending on which insert is used. Two wear 9-milimeters in shoulder holsters over their current generation body armor. Hoo-raa!

Wolf

The latest from Wolf is yet another mini scene. **WAW 44, 2 Seated SS Soldiers warming themselves by stove (39)**, is a great set with two troopers sitting around a stove shaking off the Russian cold. The officer has the stiffener removed from his feldmütze and he wears the fur-lined anorak with large hood and reversiable trousers (how cold could he be?). The enlisted man, not so well equipped, wears the camo field cap, great coat and black leather boots. A complete stove, a chopped woodpile, axe and a uncut wood pile are all included.

This issue's Mini-Men samples were supplied by the respective manufacturers.

It's all right now

in fact it's a GAZ (again)

BREATHING NEW LIFE INTO AN ANCIENT TAMIYA KIT

The GAZ-67 originated as an improved GAZ-64, which was designed very closely to the American Bantam Jeep prototype. It began production in the Soviet Union on September 23, 1943. The "B" version appeared in January 1944, and at war's end, 4,851 had been produced. After the war, production continued until being replaced by the GAZ-69. A total of 92,843 were produced and used by many different armies, including the North Koreans during the Korean War. Compared to the US Jeep, the GAZ-67 was close dimensionally, but slightly wider. Fuel consumption was higher in the GAZ, and it was not as easily repaired as the Jeep. Off road performance, however, was very good in the rugged terrain of the Soviet Union and Eastern Europe.

Overview

A Tamiya kit with a product number as low as 21 can be carbon-14 dated to the early 1970's. Therefore, there's no surprise it's a very basic model. It comes with three figures, including one pulling a Maxim M1910 machine gun. The water slide decals provide three versions. Recently the Polish company Armo stepped up to provide an update set that improves or replaces lacking details. They've provided Part photo etch, acetate instrument dials, and resin parts for the front grill and radio. All these exhibit high quality in their design and appearance. The primary replacement fenders, front bumper and grill add a much more scale appearance to the model. The secondary detailing improves the driver's controls and exterior fittings. A bonus inclusion is a new photo-etched shield for the Maxim machine gun. The instructions feature an exploded view of the model and the Armo additions. Parts to remove are noted with dashed lines.

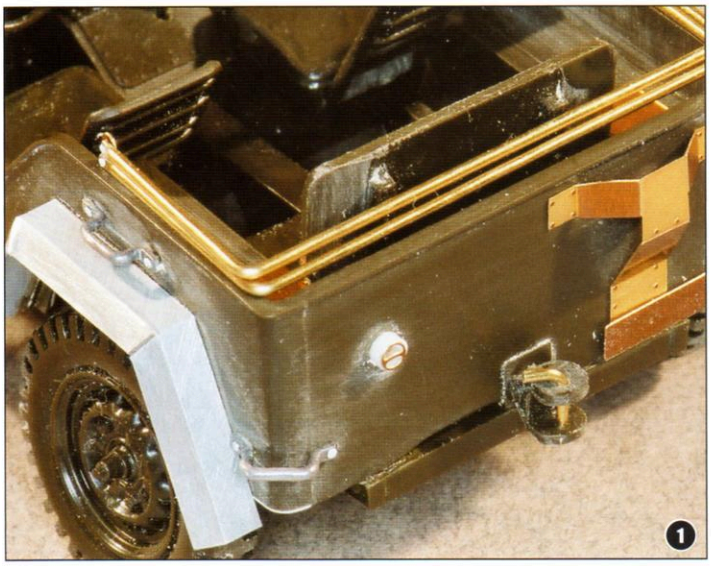
Construction

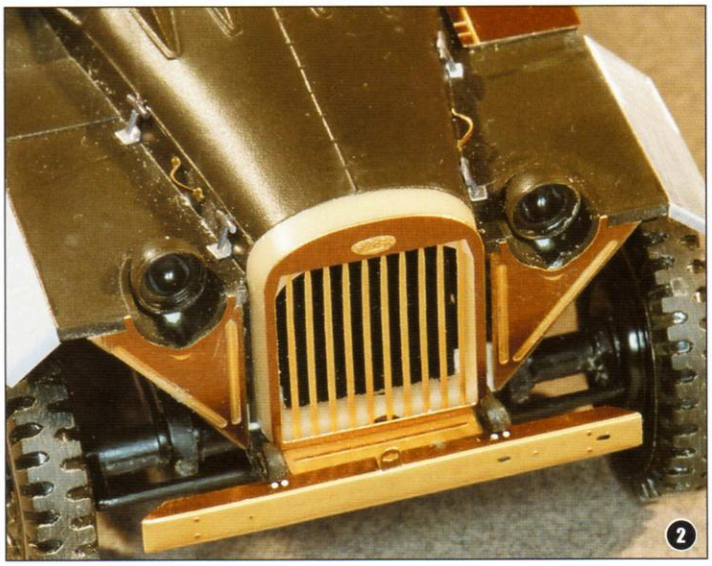
The Tamiya suspension was built as directed, with the exception of the running boards and front fender. These were cut off for replacement with photo-etch parts. The tires and wheel hubs do not fit together snugly and leave a gap on the inner sidewalls to repair. Creating a flat spot on each tire was accomplished by pressing it onto a hot clothes iron. This requires careful attention to avoid disastrous results, causing problems in your household unit. The safer method of sanding will also do the trick.

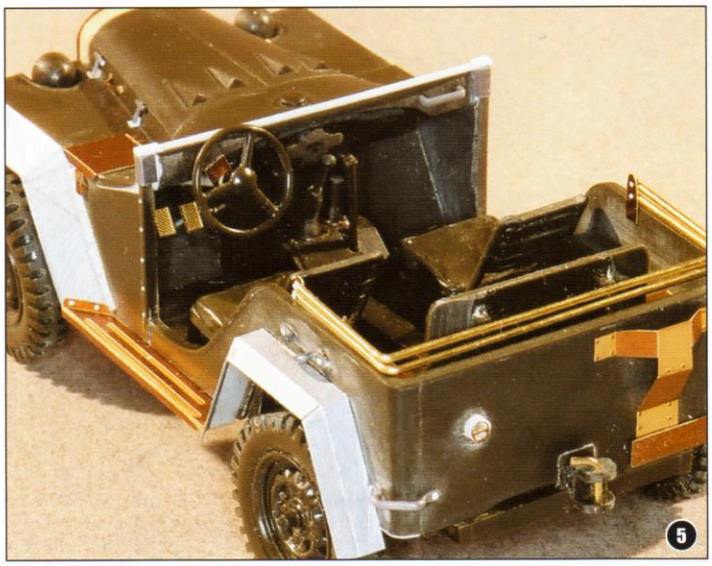
The photo-etch front bumper was folded to shape and placed in position. Throughout assembly, when rivets were called for, they were punched from lead foil. Photo-etch parts are provided on the part sheet, but they are much too awkward.

Moving on to the body, even more photo-etch comes into play. The Tamiya driver controls on the central column were used, along with the Armo floor pedals. Armo also contributes acetate film dashboard gauges and photo-etch details. A new steering wheel linkage was made from wire so it would fit the photo-etch bracket on the dash.

The Tamiya body sides were joined to the interi-







1. The Armo rear fenders were damaged during assembly and replaced with aluminum sheet. The tarp bow wire is not included in the update set. New handholds were made with lead wire. The photo-etch driver's pedals are barely visible. 2. Front and center is the Armo grill and bumper. 3, 4. left and right views of the unfinished kit. There should be an identical locker lid on the passenger side fender, but one is not provided in the update set. The hood handles are Armo, but the clasps are lead wire and styrene. A half-round segment of styrene was added to help the windshield fit better. 5. The Armo front fenders were not wide enough to meet the running board, so were replaced with aluminum sheet. Rivets were added to the driver's opening, handholds, and running board.

or tub after removing the fenders. Four new wire handholds with rivets were added to the sides and the rear plate joints were repaired. Although the seats have ejector pin marks to contend with, the sculpting of the cushion folds is actually very good. The Tamiya sponson compartment lids were sanded away and replaced by the Armo ones with their separate padlocks.

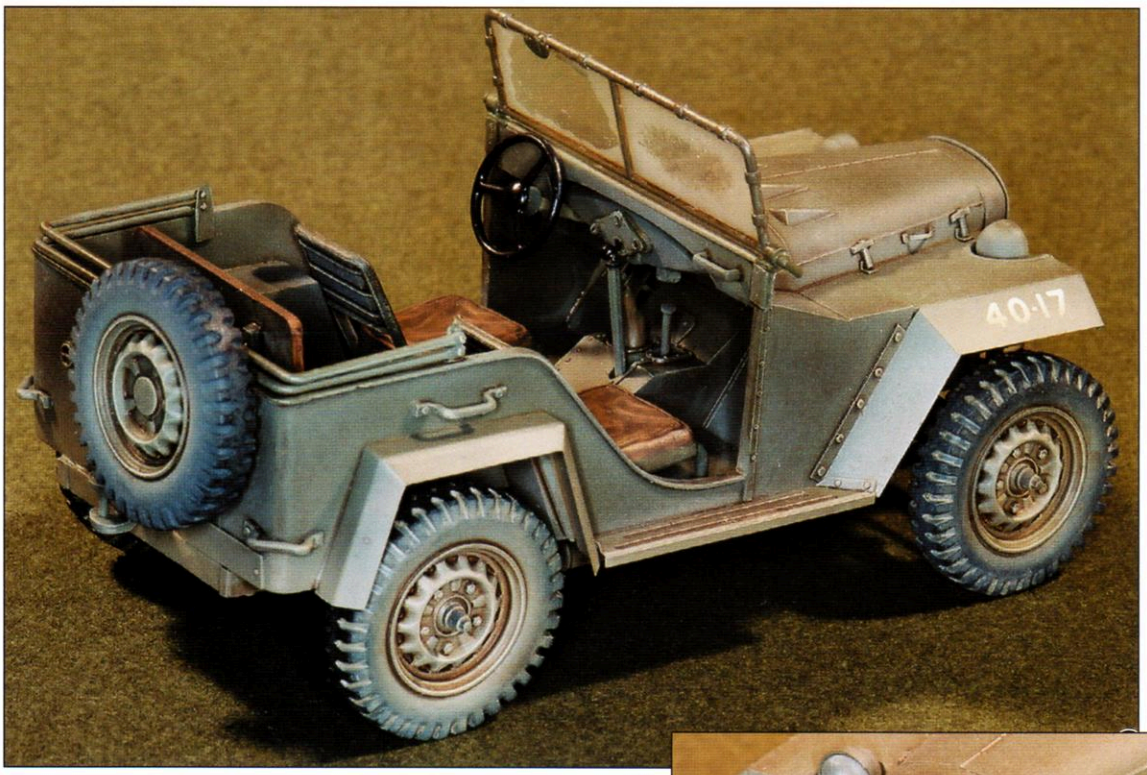
The engine hood and bulkheads were assembled, but scrap styrene strips and putty was needed to seal a sloppy fit. This assembly was then mated to the rest of the body and any gaps corrected with putty. A styrene firewall plate was added to hide the empty engine compartment. The body and chassis were glued together, followed by the Armo engine grill. The photo-etch parts include a radiator plate, slatted grill and tiny "GAZ" logo.

Fenders

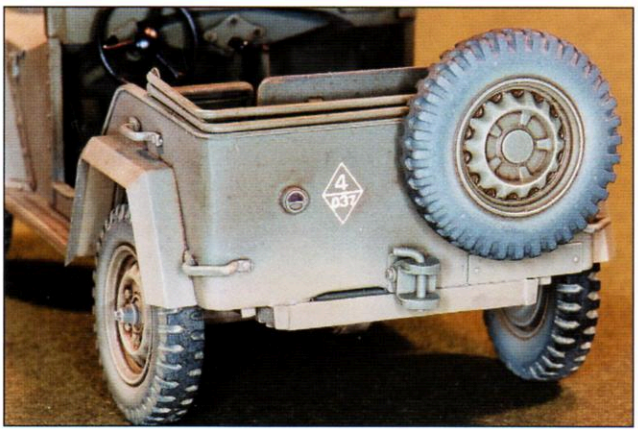
The Armo photo-etched fenders were vital improvements to the Tamiya kit. However, problems did surface. The front and rear fenders connect to a running board. The front fender ended up being too short in breadth to match up with the running board. The only solution was to make new ones with wider dimensions. Luckily, the shape was easily copied to a piece of aluminum sheet and new rivet detail was added. The running board support frames did not fit in place either, being too long. They were easy enough to trim shorter, especially since they are mostly hidden underneath. The next problem developed when the rear fenders were mistakenly folded into 90-degree angles instead of 45 and cut to make the angle work. Again, the mistake was fixed by making new ones from aluminum sheet. It was still very fussy getting it all to line up with the running board. Once they were all installed, rivets were added to the ends of the running boards. Rivets were also added to the body sides to simulate canvas door curtain snaps. Tamiya makes a part that vaguely resembles a rolled up piece of canvas, but judging from actual vehicle photos most did not have this door attached.

Final assembly

A new spare tire support from the Armo set was added, but the ten-piece photo-etch tow pintle was just too fiddly to assemble. The Tamiya part was used instead and detailed with a brass pin. A new rear light was constructed using the photo-etch



Tamiya decals were used, but the license plate was left bare. Weathering paints included Vallejo Model Air Raw Umber, Dark Earth, and Hemp. Hemp was airbrushed on the undercarriage and sides. Inside the light housings are MV Product lenses, externally are Tamiya's clear lenses. The photo-etch grill is a significant improvement over the Tamiya part. Vallejo Model Color Cork Brown and Buff were also used to weather and paint details. The nicely sculpted seat cushions are Cork Brown weathered with Raw Umber washes and Buff highlighting. The Soviet Green is Gunze Sangyo Green, followed by washes of Burnt Umber. Highlighting is done with Buff. The wheel rubber is Gunze Sangyo Tire Black washed with Hemp. The hubs are airbrushed Hemp, washed with Raw Umber, then drybrushed Buff. The windshield grime is the result of a light spray of Hemp, which was immediately rubbed away.



lens face and a piece of round styrene. The brass license plate was added to the rear but not to the front, based on actual vehicle photos. It also seemed very common that the tools were not mounted to the sides, so the photo-etched brackets were not used. This is a shame of sorts, because the photo-etch saw looks great. Photo-etched hinges for the compartment top supports were provided, but the supports themselves were not. Two bent pieces of brass rod fit the bill nicely. Few reference photos show the top extended, but with some work, a top can be made from tissue or A+B putty.

Armo provides two photo-etch handles for the hood and locking clasps for each side. The clasps were very tiny and flat, so lead wire and scrap styrene replacements were used instead. A photo-etch locker lid and latch just behind the front fender on the driver's side is also added. There should be an identical one for the passenger side, but it isn't provided. The headlights were embellished with MV Product lenses placed inside their housing, but the Tamiya clear lens was still installed outside. The windshield was detailed by using a segment of tubing for the "hinge" and bits of lead foil and styrene. Armo provides photo-etch locking levers, but new ones from the parts box were used for their more convincing three-dimensional look. The photo-etch wipers and motor were installed after painting. Only one wiper was used, based on reference photos. A thoughtful addition is the radio set with a battery box, radio and photo-etch detail. The film for the gauge dials was missing from the set, but the radio was left off the model anyway.

Painting and markings

An assortment of acrylics was used for all painting and weathering. Gunze Sangyo contributed the base coat with its Green and Tire Black for the rubber. Vallejo Model Air Raw Umber, Dark Earth and Hemp were used during the weathering steps. Also used in weathering or detail painting were Vallejo Model Color Cork Brown and Buff. After the model was painted Green, the undercarriage and wheel hubs were airbrushed Hemp. The decals provided in the Tamiya kit were then applied and when dry were sealed with a coat of Future floor wax. The seat cushions were painted Cork Brown and subsequent washes over the whole model using Raw Umber helped define detail and simulate dirt accumulation. Finally, light dry brushing with Buff further enhanced the surface details. The windshield was installed last after spraying it with Hemp and wiping away some of it from the center panels for a dirty look. A final coat of matte clear unified the shades and deadened any glossy spots from the Future wax application.

Conclusion

The Armo kit provides some well-needed detail to the basic Tamiya GAZ, but the fenders are problematic. Even so, it's still a decent value and the only set on the market to improve this kit.

—John Robinson

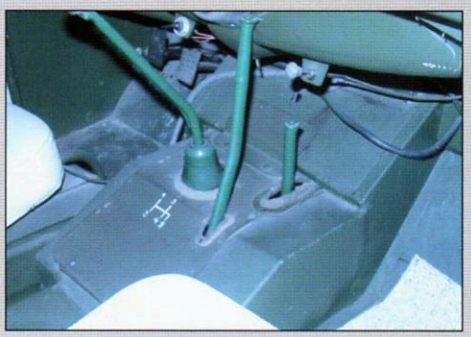
MMiR RECCE

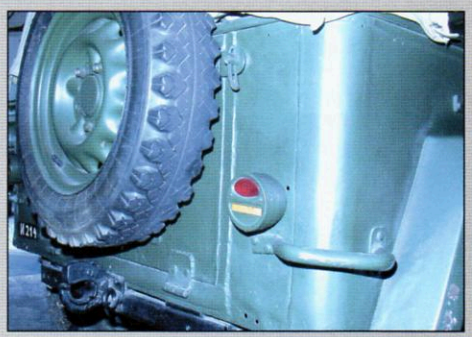
Tamiya GAZ-67B. Kit number 35021. Suggested retail price $11.50.
Armo GAZ-67B War Production. Kit 35532. Suggested retail price $14.25. Sample graciously provided by the manufacturer.

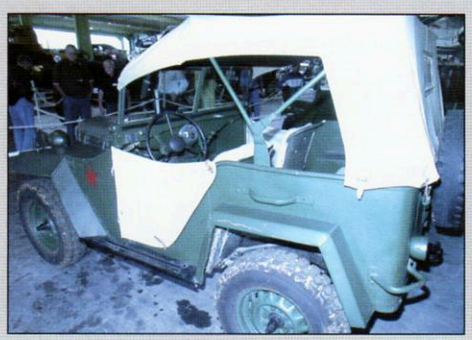
References

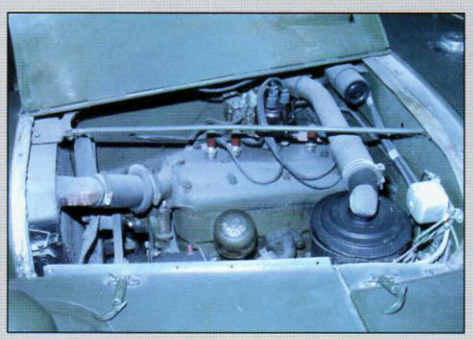
GAZ 67 Tchapayev: Russian WWII Light Utility Truck, Special Museum Line No.16, by Frantisek Koran, Wings and Wheels Publications, Czech Republic, 2000. ISBN: 80-86416-06-2. Thirty-six pages of color photographs with English captions. The one-stop purchase for your reference needs.
Vezdekhody RKKA (All-Terrain Vehicles of the RKKA), Armada No.7, by Yevgeniy Prochko, Russia, 1998. A harder to find title that also features photos, but nearly all the text is in Russian.

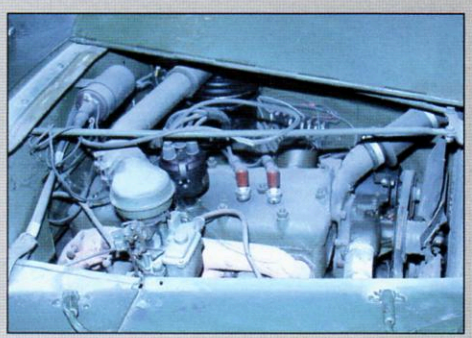
Several views of the three GAZ Jeeps currently on display at the Sinsheim Transportation Museum in Germany. The two vehicles above are believed to be WW2 production. The photos below are all of the same GAZ and it is thought that this example is either late war, or post war production.











CLANK CLANK

Tiger I #56010

U.S. M26 Pershing #56016

M4 Sherman w/ 105mm Cannon #56014

King Tiger #56018

Tanks shown with optional Battle System #53447

RELIVE THE SOUND AND ACTION OF THE FAMOUS TIGER 1 IN 1/16 SCALE.

One of the most lethal instruments used in WWII was the mighty German Tiger I. Its 88mm main gun could punch through armor up to 100mm thick, making it capable of destroying every Allied tank on the battlefront. Tamiya now presents the famous Tiger I with absolute realism in 1/16th scale. The kit replicates distinctive features of the early production Tiger I such as a cylindrical commander's cupola, smoke dischargers, turret w/pistol port, air filter system, equipment and texture of armor plates. Movement includes Forward/Reverse, turning and pirouetting, all of which are all fully proportional. Tamiya has also simulated cannon, turret and machine gun sounds and an actual 700hp Maybach V12 was digitally recorded to produce the engine sounds. To simulate the intensity of muzzle flash, the 88mm cannon has a strobe unit and the 7.92mm machine gun has an LED. All these special effects are coordinated with movement via the DMD Control Unit T-03 and the Multi Function Unit MF-01. The end result is so life like, it will seem as though you joined the 505 tank battalion. Tamiya also offers other historic armor such as the M26 Pershing, M4 Sherman and the King Tiger "production Turret", all compatible with the optional battle system. For more information, visit www.tamiyausa.com.

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